UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE – REGION SIX

MT. BAKER - SNOQUALMIE NATIONAL FOREST

MT.BAKER RANGER DISTRICT

SPECIFIED ROAD WORK DRAWINGS FOR PROPOSED

UPPER FINNEY-CHUTE THIN TIMBER SALE

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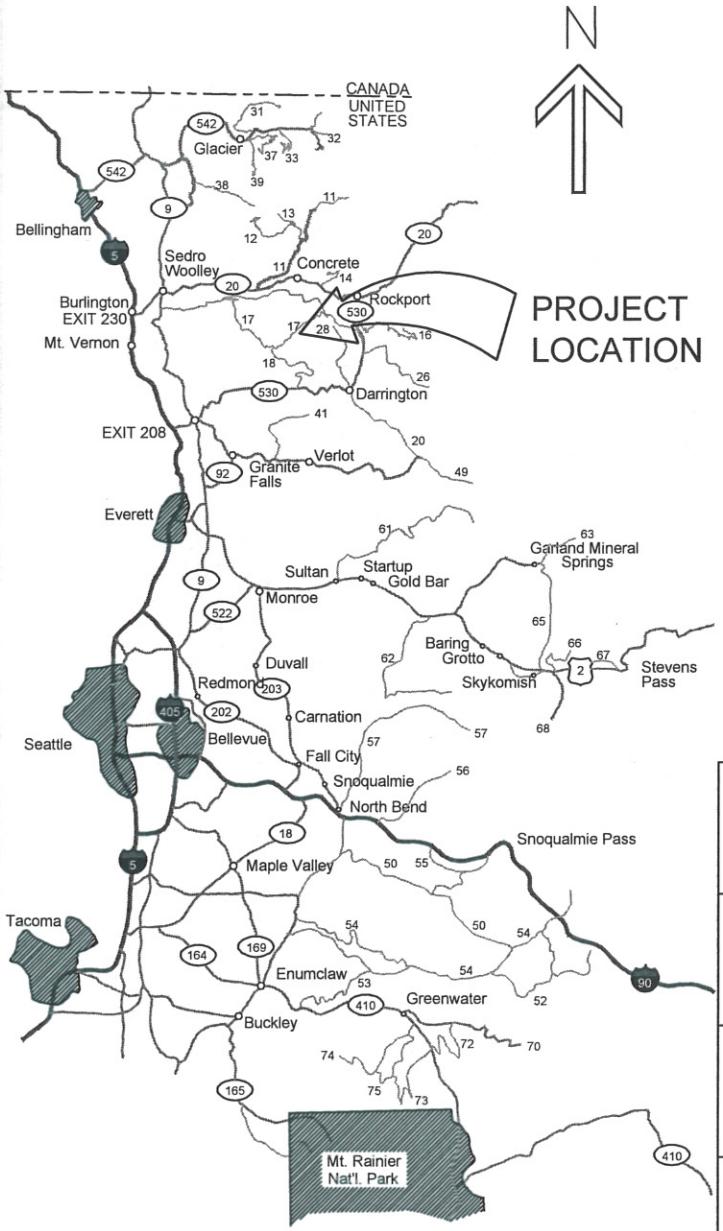


VICINITY MAP

STATE OF WASHINGTON

LIST OF SPECIFIED ROADS

ROAD NO.	MP to MP	MILES
1700	6.00 to 14.00	8.00
1700015	0.00 to 0.70	0.70
1700016	0.00 to 0.12	0.12
1700025	0.00 to 0.18	0.18
1705	0.00 to 5.00	5.00
1715	0.00 to 0.50	0.50
1715011	0.00 to 1.00	1.00
1720	0.00 to 4.10	4.10
1720011	0.00 to 0.23	0.23
1721	0.00 to 0.31	0.31
1722	0.00 to 1.32	1.32
1722015	0.00 to 0.30	0.30
1730	0.00 to 0.65	0.65
1730524	0.00 to 0.10	0.10
1735	0.00 to 2.00	2.00
1740	0.00 to 0.80	0.80
1740111	0.00 to 0.19	0.19
1800	0.00 to 21.10	21.10
	TOTAL	46.60

PREPARED BY:

NAME DESIGN ENGINEER DATE 7-17-15

REVIEWED BY:

NAME PROJECT TEAM LEADER DATE 7-17-15

REVIEWED BY:

NAME ASSISTANT FOREST ENGINEER DATE 8/6/15

RECOMMENDED BY: JOHN LANGLEY

NAME for FOREST ENGINEER DATE 8/6/15

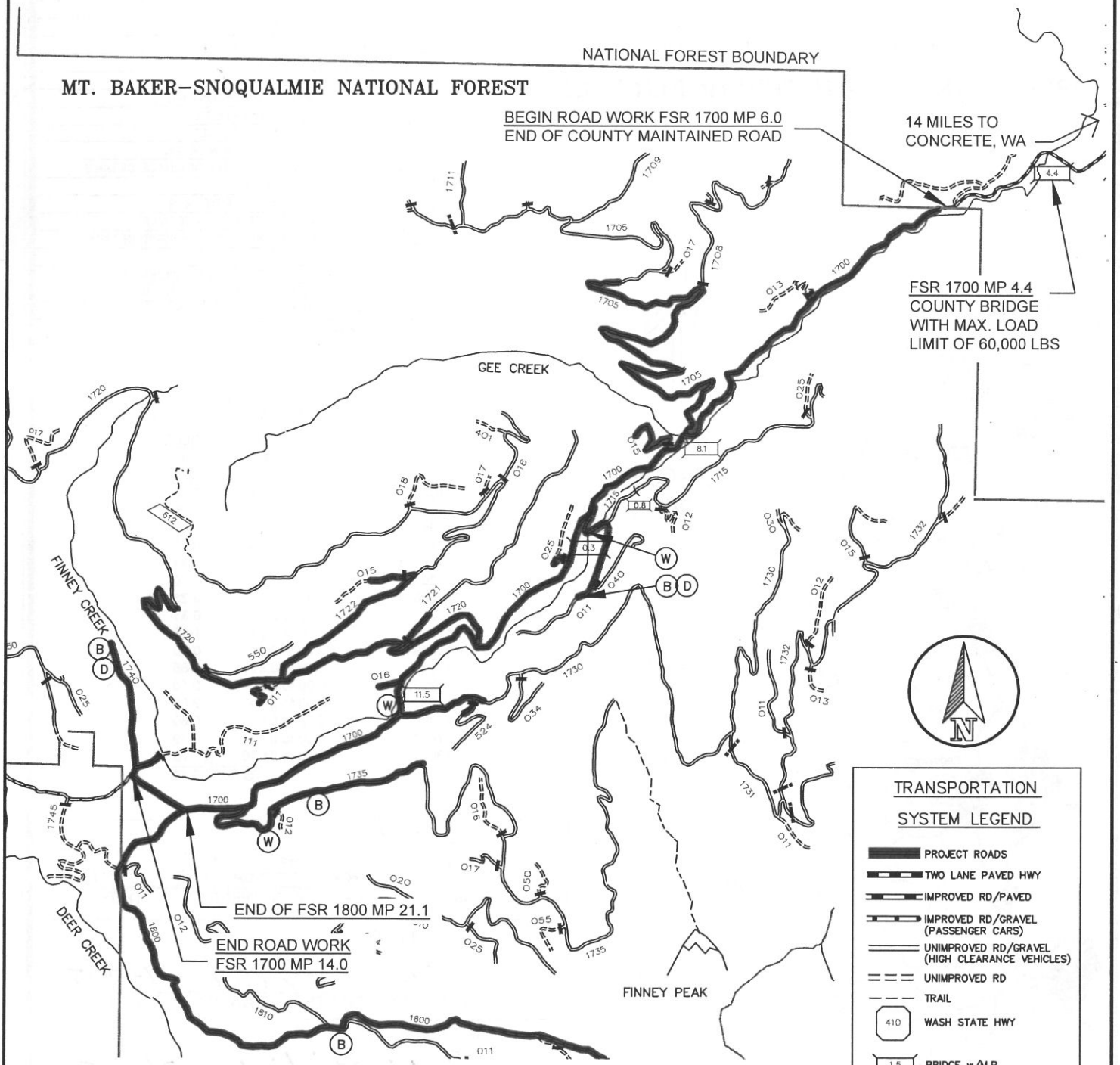
APPROVED BY:

NAME DISTRICT RANGER DATE 8/7/15

SHEET	OF
2	60

UPPER FINNEY-CHUTE THIN TIMBER SALE

LOCATION MAP



NOTES:

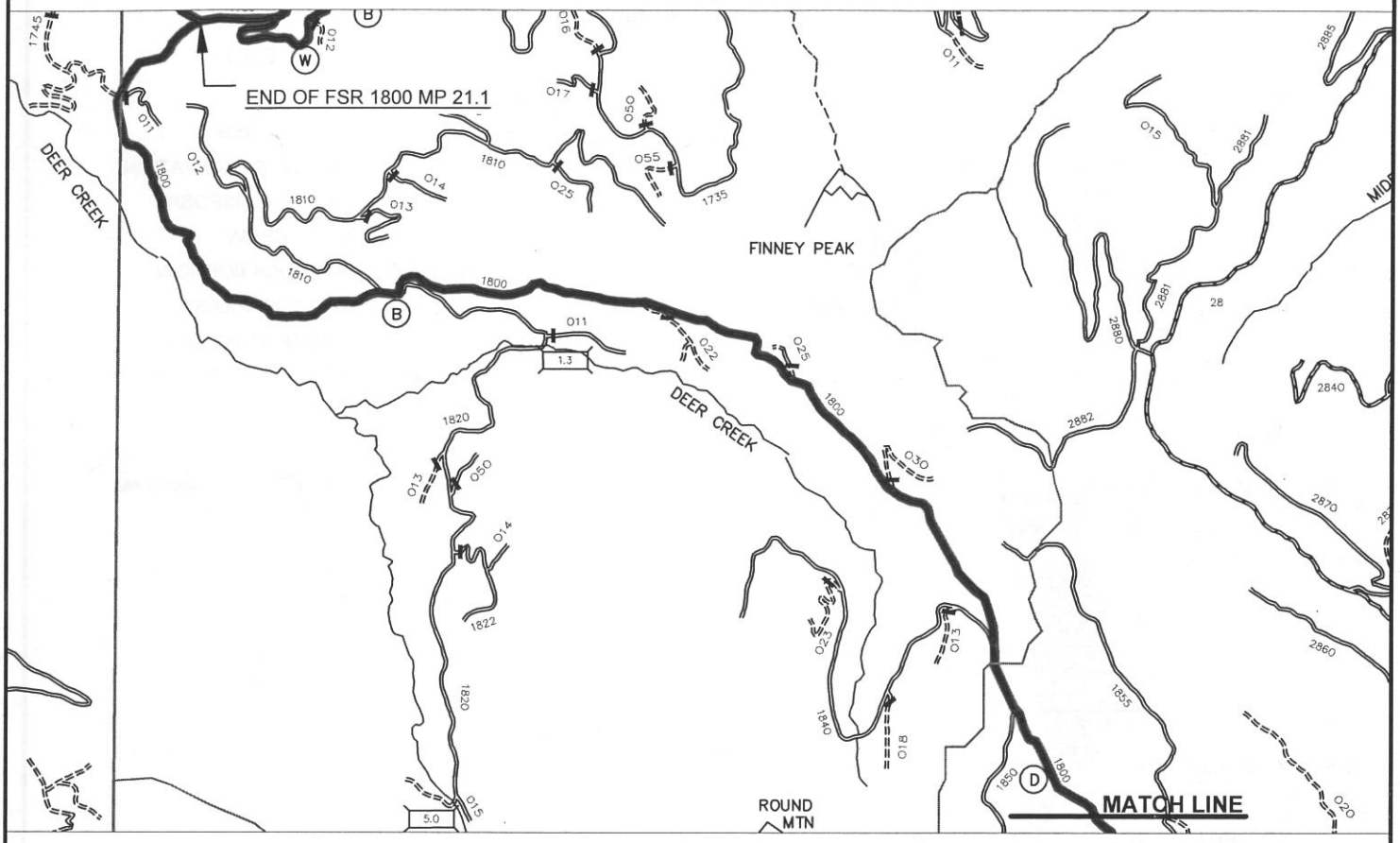
1. FOR ROAD CLOSURES, RESTRICTIONS, SIGNAGE, AND OTHER REQUIREMENTS SEE GENERAL NOTES FOR SPECIFIC ROAD INFORMATION.

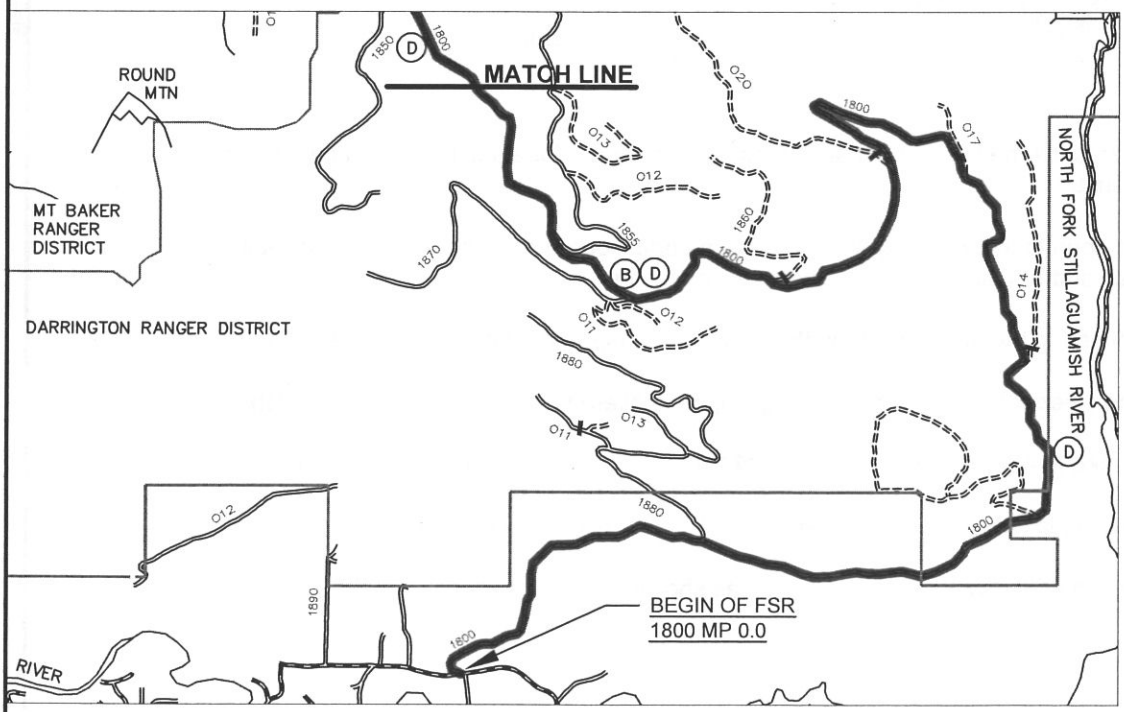
2. FOR BORROW, DISPOSAL, AND WATER SOURCE SPECIFIC LOCATIONS SEE GENERAL NOTES AND ROAD WORKLISTS.

SHEET	OF
3	60

UPPER FINNEY-CHUTE THIN TIMBER SALE

LOCATION MAP FOR FSR 1800





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TRANSPORTATION SYSTEM LEGEND

- PROJECT ROADS
- TWO LANE PAVED HWY
- IMPROVED RD/PAVED
- IMPROVED RD/GRAVEL (PASSENGER CARS)
- UNIMPROVED RD/GRAVEL (HIGH CLEARANCE VEHICLES)
- UNIMPROVED RD
- TRAIL
- 410 WASH STATE HWY
- 1.5 BRIDGE w/M.P.
- LOCKED GATE
- BLOCKED ROAD
- (D) DESIGNATED DISPOSAL AREAS
- (W) DESIGNATED WATER WITHDRAWAL LOCATIONS
- (B) DESIGNATED BORROW SOURCES

NOTES:

1. For road closures, restrictions, signage, and other requirements see general notes for specific road information.
2. For borrow, disposal, and water source specific locations see general notes and road work lists.

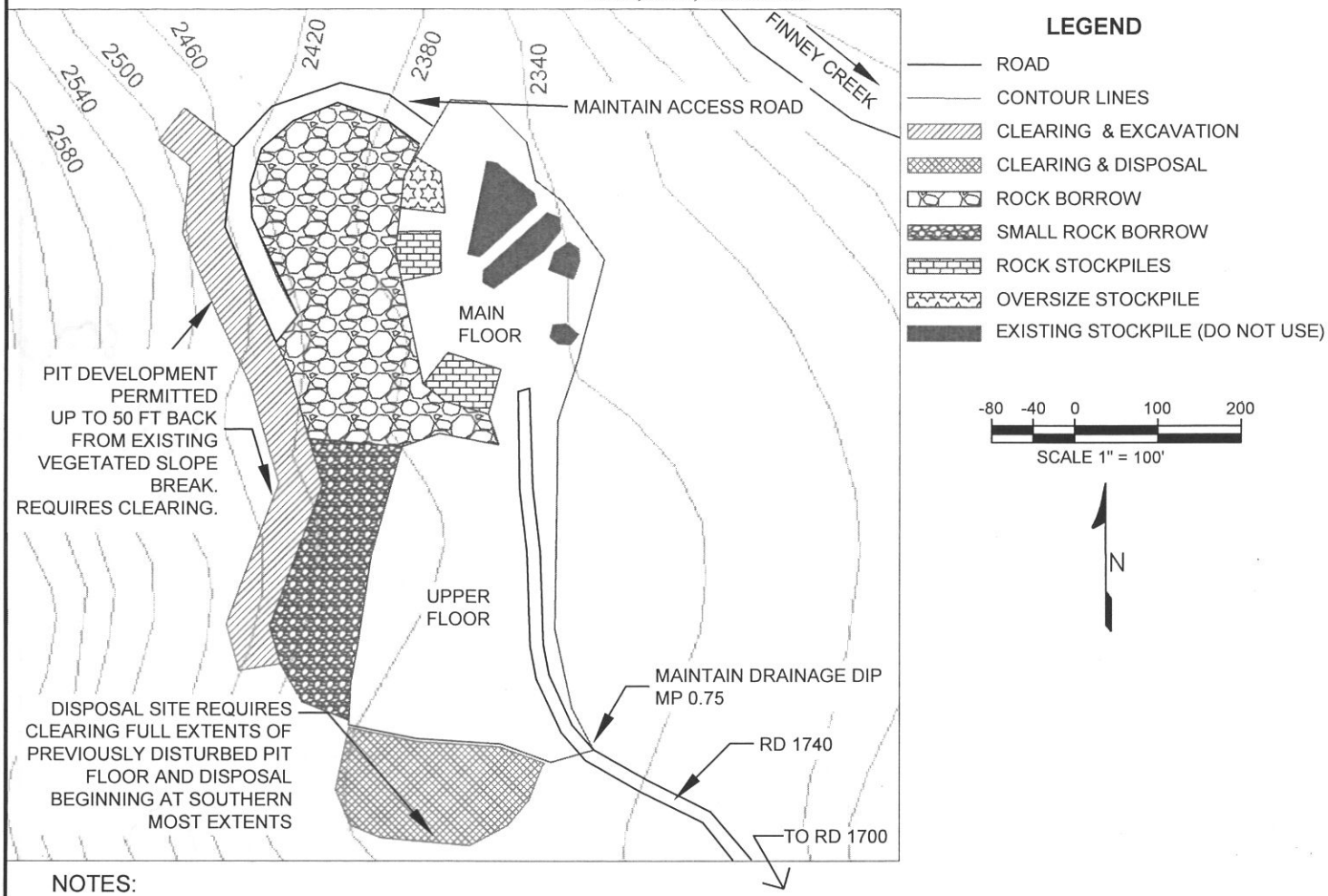
0 1/2 1 2

MILES

SHEET	OF
4	60

UPPER FINNEY-CHUTE THIN TIMBER SALE
RD 1740 FINNEY PIT PLAN

T34N, R7E, Section 25



NOTES:

1. At the completion of operations the quarry floor shall be shaped to drain. Clearing limits shall be 10 feet beyond the excavation limit.
2. Road 1740 shall remain open to traffic during and after the material source operation. Contractor shall maintain the access road and reshape at the conclusion of operations.
3. Excavation shall be confined to the area shown on the drawing. Do not undercut upper access road.
4. Cut slope shall be left no steeper than adjacent existing slopes unaltered by timber sale contract work.
5. Equipment shall be cleaned in accordance with section 171.03-171.07 of the timber sale contract.
6. Oversized material shall be placed in the oversize stockpile area shown on the drawing.
7. Contractor shall not use material from existing stockpiles as shown.

H.GABRIEL 08/08/2014

UPPER FINNEY-CHUTE THIN TIMBER SALE
SUMMARY OF QUANTITIES
(FOR EACH SPECIFIED ROAD)

PAY ITEM	DESCRIPTION OF WORK	UNIT	ROAD NUMBER																		
			1700	1700015	1700016	1700025	1705	1715	1715011	1720	1720011	1721	1722	1722015	1730	1730524	1735	1740	1740111	1800	TOTAL
			ML4	ML1	ML1	ML1	ML2	ML2	ML2	ML3/2	ML1	ML1	ML2	ML1	ML2	ML1	ML2	ML2	ML1	ML3	
15101	MOBILIZATION (INCLUDES CLEANING OF EQUIPMENT, SIGNING, TRAFFIC CONTROL, SANITATION)	LS	COMMON TO ALL ROADS																		1
20105	CLEARING AND GRUBBING, DISPOSAL OF TOPS AND LIMBS J, LOGS J, STUMPS J	SY	1926	0	200	0	0	0	0	180	0	0	0	0	0	90	180	0	180	0	2756
20157	ROADWAY CLEARING AND GRUBBING	MILE	0	0.7	0	0.18	0	0	0	0	0.3	0.31	0	0.3	0	0	0	0	0	0	1.79
20301	REMOVAL OF EXISTING CULVERT, DISPOSAL A	EA	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
20303	REMOVAL OF ASPHALT	SY	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
20401A	ROADWAY EXCAVATION, COMPACTION METHOD E, FINISHING METHOD C	CY	8	200	30	0	80	45	0	12	140	0	0	131	0	0	0	0	0	697	1343
20401B	WIDEN ROAD 18@MP18.55	LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
20401C	ROAD 1735 MP0.66	LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
20401D	RECONSTRUCT 12' ROADWAY, RD 1722015	LS	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
20419	DRAINAGE EXCAVATION, DITCH RECONSTRUCTION	LF	370	0	0	0	100	0	50	0	0	0	0	0	0	0	50	0	0	620	1190
20420	DRAINAGE EXCAVATION, TYPE DRIVABLE DIP	EA	0	2	0	1	0	0	0	0	1	2	0	0	0	0	0	0	1	0	7
20701	GEOTEXTILE TYPE 1V-A NON-WOVEN FABRIC	SY	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
20950	CULVERT BEDDING MATERIAL (COMMERCIAL SOURCE)	TON	0	0	0	0	0	0	0	6	0	0	0	26	0	0	22	0	0	3	57
23050A	ROADSIDE BRUSHING - MAINTENANCE LEVEL 1 & 2 ROADS	Mile	0	0.7	0.12	0.18	5	0.49	1	1.96	0.3	0.31	1.32	0.3	0.31	0.1	2	0.75	0.19	0	15.03
23050B	ROADSIDE BRUSHING - MAINTENANCE LEVEL 3 & 4 ROADS	Mile	8	0	0	0	0	0	0	2.1	0	0	0	0	0	0	0	0	0	21.1	31.2
25101A	PLACED RIPRAP, CLASS 3 (GOVERNMENT SOURCE) FOR CULVERT INLETS & OUTLETS ON ALL ROADS	CY	0	0	0	0	0	0	0	23	0	0	0	0	0	0	2	0	0	0	25
25101B	PLACED RIPRAP, CLASS 5 (GOVERNMENT SOURCE) FOR CULVERT INLETS & OUTLETS ON ALL ROADS	CY	220	10	0	5	0	0	5	5	5	10	10	21	0	0	45	0	0	5	341
25101C	PLACED RIPRAP, CLASS 7 (GOVERNMENT SOURCE) FOR FILL SHOULDER STABILIZATION	CY	30	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	515	555
25302	GABIONS (3x3x3)	CY	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
26201A	GEOGRID TYPE 1 BIAXIAL	SY	0	0	0	0	225	0	0	0	0	0	0	0	0	0	0	0	0	260	485
26201B	GEOGRID TYPE 2 BIAXIAL	SY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	800	800
30322A	ROAD RECONDITIONING, COMPACTION METHOD B - ML 3 & 4 ROADS	Mile	8	0	0	0	0	0	0	2.1	0	0	0	0	0	0	0	0	0	21.1	31.2
30322B	ROAD RECONDITIONING, COMPACTION METHOD B - ML 2 ROADS	Mile	0	0	0	0	5	0.49	1	1.96	0	0	1.32	0	0.31	0	2	0.75	0	0	12.83
30322C	ROAD RECONDITIONING, COMPACTION METHOD B - ML 1 Roads	Mile	0	0.7	0	0.18	0	0	0	0	0.3	0.31	0	0	0	0	0	0	0.19	0	1.68
32209A	AGGREGATE BASE, GRADING EQUAL TO WSDOT MIX 1-1/4" MINUS, COMPACTION METHOD B (COMMERCIAL SOURCE)	TON	346	0	52	60	405	0	100	59	47	152	100	0	60	0	118	0	30	241	1770
32209B	2-4" CRUSHED ROCK (GOVERNMENT SOURCE)	CY	324	30	0	15	110	0	0	65	15	30	0	345	0	40	0	0	115	60	1149
40401	MINOR HOT MIX ASPHALT CONCRETE, 1/2" AGGREGATE, AR 4000 OIL	TON	77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77
60275A	18-INCH HIGH DENSITY POLYETHYLNE PIPE WITH SMOOTH INTERIOR AND ANNULAR EXTERIOR, COMPACTION METHOD B	LF	0	0	0	0	0	0	0	38	0	0	0	148	0	0	32	0	0	40	258
60275B	24-INCH HIGH DENSITY POLYETHYLNE PIPE WITH SMOOTH INTERIOR AND ANNULAR EXTERIOR, COMPACTION METHOD B	LF	0	0	0	0	0	0	0	38	0	0	0	138	0	0	68	0	0	0	244
60275C	36-INCH HIGH DENSITY POLYETHYLNE PIPE WITH SMOOTH INTERIOR AND ANNULAR EXTERIOR, COMPACTION METHOD B	LF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0	0	0	40
60505	GEOCOMPOSITE SHEET DRAIN SYSTEM	SY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	620	620
60790	RECONDITION DRAINAGE STRUCTURE	EA	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	4	1	0	8
62503	SEEDING, DRY METHOD WITH MULCH (SEED MIX C1)	SY	397	163	90	0	0	116	33	158	260	0	0	572	0	10	529	0	18	723	3069
63307	TUBULAR MARKERS, MOUNTABLE WITH RETROREFLECTIVE WHITE TAPE	EA	8	0	0	0	0	0	0	0	0	0	0	0	8	0	8	0	0	16	40
65102	PIT AND QUARRY DEVELOPMENT	LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1

GENERAL NOTES

1. **Item 15101,** Mobilization – In addition to what is identified in Section 151 of the Specifications, mobilization includes construction signing, traffic control, and cleaning of equipment as indirect costs to this item. Equipment shall be washed (to remove all material that could potentially contain weed seeds) and inspected by the Forest Service Engineering Representative (ER) prior to entering National Forest lands.

2. **Item 20105**, Clearing and Grubbing – Item is for areas that require clearing and grubbing prior to other construction activities. All clearing debris shall be hauled to the designated waste areas and piled in locations flagged by the ER or as identified in a pit plan.

3. **Item 20157**, Roadway Clearing and Grubbing – Includes removing all vegetation that has grown up in the roadway, in the ditches, and on the shoulders. Item is measured by the mile of roadway cleared. Clearing debris (trees, root wads, and slash) shall be scattered on the downhill side of the road 10' from the road edge in areas outside of sale unit boundaries. Clearing debris generated inside sale unit boundaries shall be hauled to a designated waste area and piled in locations flagged by the ER or as identified in a pit plan.

4. **Item 20301**, Removal of Culvert – Includes the removal and disposal of all culverts designated in this project for removal. All culverts shall become the property of the Purchaser and be removed. Follow all Federal, State, and Local laws for disposal of culverts.

5. **Item 20401A,B,C,D**, Roadway Excavation – Includes roadway excavation, embankment, compaction, hauling of waste material, hauling of unclassified borrow, and maintaining disposal sites. Unclassified borrow shall come from the designated borrow sources identified on the Location Map. All excess material shall be hauled to one of the designated disposal areas identified on the Location Map and staked in the field by the ER.

6. **Item 20419**, Drainage Excavation, Type Ditch Reconstruction. See the Work Description List for location and the Ditch Reconstruction Typical for details. All excess material shall be hauled to one of the designated disposal areas identified on the Location Map and staked in the field by the ER.

7. **Item 20420,** Drivable Dip. Construct as shown on typical drawing utilizing material from government source. The objective of this pay item is to provide continuous flow of Rd 1740 ditchwater across Rd 1740-111 during project use.

8. **Item 20701**, Geotextile Type IV-A – Provide a non-woven fabric meeting the requirements of Type IV-A fabric in Section 714 of the Specifications. Place geotextile on prepared surfaces approved by the ER.

9. **Item 20950**, Pipe Bedding – Bedding material for culvert installations shall be obtained from a certified weed free Commercial Source. Submit material certification, test reports, and gradation reports to the ER, prior to purchase, for approval. Load and weight tickets shall be submitted daily to the ER for commercial source bedding. No bedding material shall be placed until the pipe bed has been constructed with positive camber.

10. **Item 23050 A,B,** Roadside Brushing – This work consists of cutting and disposal of the existing roadway vegetation on all roads. Clearing limits and requirements are shown on the Road Brushing Typical. Item is measured by the mile and accepted quantity includes completion of both sides of the road. Multiple passes may be necessary to ensure the vegetation is cut to the specified sizes. Multiple passes are not paid separately. Brushing intensity is based on the Maintenance Level (ML) of the road, see Section A7 of the contract for road ML designations.
    ML-3 Roadside Brushing – Brushing can generally be accomplished with a standard rubber-tired mechanical mowing machine. Most all of the vegetation is less than 3" in diameter. Minor amounts of windfall may be present and require chainsaw and an excavator/backhoe to remove.

GENERAL NOTES

ML-1&2 Roadside Brushing – Roads have a higher concentration of brush along the road edges. Brushing may generally be accomplished with a standard rubber-tired mechanical mowing machine, but the use of an excavator/backhoe and chainsaw may be required more frequently.

11. **Items 25101 A,B,C**, Placed Riprap, Class 3, 5, and 7 – Riprap shall be obtained from Finney Pit at the end of Road 1740 per Pit Plan Drawing. Riprap stockpile shall be developed under Item 65102.

12. **Items 25302**, Gabions – This work includes but is not limited to excavation and disposal of waste material, gabion purchase and installation, geotechnical fabric, and cell fill including backfilling. Reseting existing object markers disturbed during construction is incidental. Submittals and materials certifications required.

13. **Items 26201A,B**, Geogrid– This work consists of purchase and placement of a Type 1 or Type 2 Geogrid material for slope stabilization. Excavation volume is covered under Item 20401A. Submittals and materials certifications required.

14. **Item 30322A,B,C**, Road Reconditioning –This work consists of grading, shaping, and compacting the roadway; grading, cleaning and reshaping all ditches; and cleaning all culvert inlets and outlets. See the Road Reconditioning Typical for details. Compaction with the use of an 8-10 ton vibratory roller is required. Loose debris such as logs, rocks >6" and other large debris shall be removed from clearing limits.

15. **Item 32209A**, Aggregate Surfacing – aggregate shall be commercial source. Material certification, test reports, and gradation reports shall be submitted to the ER for approval prior to delivery to the project. Quantities are measured by the ton. Load and weight tickets shall be submitted daily to the ER for verification of quantities.

16. **Item 32209B**, 2-4" Base Rock – Aggregate shall be generated from the Rd 1740 Finney Pit per Pit Plan Drawing. 2-4" rock stockpile shall be developed under Item 65102. Rock may be screened/sorted from loose material or crushed to achieve size class. Grading shall meet the requirements of Table 703-16, Grade O in the supplemental specifications. Quantities are measured by the Cubic Yard based on agreed quantity per truck load between the ER and the Contractor. All work associated with loading, hauling, placing, processing, and compaction are indirect costs.

17. **Item 40401,** Minor Hot Mix Asphalt - This work consists of sawcutting existing asphalt, prepping surface and placing asphalt. Asphalt Concrete shall be ½" Aggregate with AR 4000 Oil mix. Removal and disposal of existing asphalt off National Forest Lands in accordance with all state and local laws is also incidental to this pay item. Submittals and materials certifications required.

18. **Items 60275 A,B,C**, 18", 24", & 36" corrugated polyethylene pipe with Bell and Spigot connections – This work consists of furnishing and installing culverts. See the Drainage Construction Typicals for installation details. Compaction Method B is required as described in Section 209 of the Specifications. All culvert installations at locations with live streams or presence of water shall comply with the MOU with WDFW and be dewatered by pumping, temporary bypass culvert, or ditching. Dewatering is an indirect cost to the culvert installation. Construct culvert bed with positive camber prior to placing bedding material. Bedding Material is a separate pay item 20950. Submittals and materials certifications required.

19. **Item 60505,** Geocomposite Sheet Drain System – Place sheet drain system according to manufactures instruction. Submittals and materials certifications required.

GENERAL NOTES

20. **Item 60790,** Recondition drainage structure - This work consists of re-establishing the original culvert and culvert catch basin dimensions and cleaning debris out of the culvert inlets and outlets. See the Drainage Construction Typical for catch basin details.

21. **Item 62503,** Seeding (C-1), dry method (with straw mulch) – This work consists of seeding and mulching all constructed fill slopes, cut slopes, and all disturbed soil areas beyond the traveled way, all disturbed soil areas for culvert installations, and disposal areas. See the Supplemental Project Specifications for seed and mulch (weed free straw) requirements, application, and timing. Submittals and materials certifications required.

22. **Item 63307,** Tubular Markers - This work consists of prepping surface, mounting anchor, and installing marker. Markers shall be white 42" tall by 3 ¼" diameter round made of polyethylene blend or polyurethane with retro-reflective white tape. Base shall be Hy-Last rubber or A.B.S. plastic and shall be mounted to concrete using mechanical anchors. Submittals and materials certifications required.

23. **Item 65102,** Pit and Quarry Development Including Disposal Area - This work consists of clearing and grubbing, excavation, material sorting, and screening to produce designated material from Finney Pit at MP0.8 of Road 1740. Pit shall be developed by shifting into the hillside up to 50 feet horizontally without undercutting the upper access road. Refer to Pit Plan Drawing. This item also includes shaping pit to safe slopes after material is generated. Cubic Yards to be measured in place at respective designated project site. Material to be stockpiled is per worklist.

24. **Designated Borrow Source** – Borrow sources shall be used for unclassified borrow as described in the Work List. There are 4 designated borrow sources for this project.
    1. **Road 1715011 at MP 1.00.** This is a small quantity riprap borrow source only.
    2. **Road 1740 at MP 0.8 Finney Pit**. Borrow is by widening of the road as shown on Pit Plan Drawing. Utilize this material as designated.
    3. **Road 1735 at MP 1.09** is from existing piles in wide area on right. Utilize this material as road base rock or riprap on Road 1735. Any other excess and suitable material generated as the result of other construction activities may be used for unclassified borrow if approved in advance by the ER.
    4. **Road 1800 at MP 9.65** is an unimproved rock source on right.
    5. **Road 1800 at MP 17.6** is a crushed aggregate pile on left and small riprap on right.

25. **Designated Disposal Areas** – Disposal areas are for slash, debris, soil, and other waste material generated as a result of construction activities that are not designated for other specific locations. Place material within locations and as flagged by the ER. All waste shall be shaped to drain, seeded and mulched, and are indirect costs to those pay items.
    1. **Road 1700016 at MP 0.12.** Begin wasting at the back of the pit.
    2. **Road 1715011 at MP 1.00.** Begin wasting to the back of the pit.
    3. **Road 1720 at MP 3.15 Right.**
    4. **Road 1740 at MP 0.8 Finney Pit**. The waste disposal location is in the south end of the Finney Pit. See Pit Plan Drawing.
    5. **Road 1800 at MP 4.40 Right**
    6. **Road 1800 at MP 9.65 Left**
    7. **Road 1800 at MP 12.2 Left**

26. **Timing of Noise Restrictions - C 6.315** – Restrict heavy equipment and other noise-generating activities above ambient levels **between April 1st** and **September 15th** to between two hours after sunrise to two hours before sunset for road work adjacent to the units shown in C6.315 to reduce potential disturbance of Marbled Murrelets.

GENERAL NOTES

27. **Timing of Drainage Work in live streams - C 6.315** – All work in live streams shall be done under the provisions of the **2012 WDFW-USFS MOU** (Washington State Department of Fish & Wildlife – US Forest Service Memorandum of Understanding). The in-water work window is **July 16th** to **Feb 28th** for any project-related work above Big Fir Creek (Road 1700 MP 6.5).

28. **Dewatering** – The following requirements apply where worksite isolation from flowing waters and/or dewatering occur.
    a. A written dewatering plan shall be prepared prior to the start of the instream work that describes the method of bypass, location and construction of any coffer dams or diversion dams, the number and size of pumps to be used, and backup plans in place in case of mechanical failure or unanticipated storm events.
    b. The dewatering system will be designed and installed to minimize erosion and sediment delivery to watercourses and to withstand all stream flows anticipated during the construction period. Water shall be reintroduced back into the channel in a manner that minimizes the mobilization of fines and sediment into downstream waters.
    c. Water bypassed around the site will be returned to the stream channel downstream of the work site. The bypass discharge point shall be designed to minimize erosion and scour of the stream channel, banks, and vegetation.
    d. Wastewater from project activities within the dewatered area shall be routed to an area outside the bankfull channel to allow removal of fine sediment and other contaminants prior to infiltrating back into waterbodies.
    e. Any materials used to construct the dewatering system will be removed prior to the completion of the project

29. **Water Withdrawal Sources** –Water Withdrawal shall only occur at the following locations and in compliance with all special criteria below. Submit a water withdrawal plan to the Contracting Officer for review and approval 7 days prior to starting work.
    - Road 1700 MP 11.50 from main stem Finney Creek – Water drafting and tank storage shall be located within the dispersed camping area on the left bank/downstream side of the bridge (North of the bridge).
    - Road 1715 MP 0.3 from main stem Finney Creek.
    - Road 1735 MP 0.69 at existing concrete ford.
    - Resident Fish/ Non fish-bearing Stream (all streams assumed to be fish-bearing unless written documentation from FS fish biologist documenting otherwise) -The withdrawal hose or pipe must be fitted with a screen with a minimum effective surface area of at least one square inch of functional screen area for every gallon per minute (gpm) of water drawn through it, a round or square screen mesh that is no larger than 2.38 mm (3/32 or 0.094 inches) in the narrow dimension, or any other shape that is no larger than 1.75 mm (1/16 or 0.069 inches) in the narrow dimension.
    - No more that 10% of the instantaneous stream flow may be removed. Streams may be sandbagged or have a weir placed across the stream to pond water. No soil shall be used to seal the water retention area and no logs or woody material from within the bankfull channel may be used. All sandbags or weirs shall be completely removed at the end of work season and prior to onset of rainy season.

30. **Road Closures and Notification Requirements – All costs associated with work described below are incidental to 15101 Mobilization.**

    1. Notify the Engineering Rep. 7 Calendar days prior to construction and harvest activities regarding this project.

    2. Install Road Information Signs on FSR 1700 at MP 0.1 and MP 14.1 and on FSR 1800 MP 0.0 meeting all the requirements of the MUTCD 2012 with the following information. Coordinate with Skagit County regarding

GENERAL NOTES

placement of information sign on FSR 1700 at MP 0.1. Signs shall be present and maintained during all ongoing project road work.

ROAD CONSTRUCTION	
DELAYS	**Sign shall be 60"x60", reflective, white with black letters**
DATE X TO X	**Installation on (2) 4"x4"x12' pressure treated posts with vandal proof nuts**
TIME X TO X	**and bolts**
ROAD # 1X X X X X X	

3. For construction activity work where the road will be CLOSED, install at the beginning and end of each project road, a closure sign meeting all the requirements of the MUTCD 2012 with the following information. Sign shall be present and maintained during all project construction work. See Traffic Control Drawing. Notify the ER 14 days in advance of road closure work.

ROAD CLOSED	
FOR CONSTRUCTION	**Sign shall be 48" x 48", reflective, white with black letters**
DATE X TO X	**Sign may be installed on 4"x4"x12' post or placed on a mobile stand**

4. Road Work Ahead signs, At a minimum, (2) 36"x36" signs, Orange with Black Letters, shall be installed on each side of each work activity while work is ongoing. Placement of signs shall be located near the project work sites. See Traffic Control Drawing.

5. Road Closures – C6.315

A. On roads that are open to the public, there shall be NO road closures or road construction or hauling activities from 1200 (noon) on Fridays through to Monday 0600 or on any federally recognized holidays.
B. Notify the Forest Service 14 days prior to any temporary road closures so that land owners and existing mining claimants may be notified, and allow either alternate access, or permitted access through any temporary closure.

6. Specific Road Requirements – FSR 1700, 1735, and 1800 – C5.12

These roads are groomed and maintained for Washington State Finney Sno-Park use during the winter snow season which is typically November 30 to May 1. Haul and road reconstruction activities shall not inhibit Sno-Park use.

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 11	OF 60
ROAD 1700 - MP 6.00 to 14.00				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
6.00	**End of County Road, Forest Boundary**			
	Begin Specified Road Work for Road 1700			
6.0 to 14.0	23050B	Begin Roadside Brushing ML 4 Road	Mile	8.00
	30322A	Begin Road Reconditioning ML 4 Road	Mile	8.00
	32209A	Place 1-1/4" crushed aggregate surfacing - Several locations between MP 6.0 and 14.0 to be determined in the field	TON	45
	40401	Place Hot Mix Asphalt, 1/2" Aggregate, AR 4000 Oil Mix - Several locations between MP 6.0 and 14.0 to be determined in the field	TON	30
6.11	32209A	Place 1-1/4" minus crushed aggregate surfacing - 105'x14'x3"	TON	22
6.18		Repair sinkhole on outside (left) shoulder		
	20303	Remove asphalt 6'x10'	SY	7
	20401A	Roadway Excavation - 4'x8'x2'	CY	4.0
	32209B	Place 2-4" crushed aggregate base - 4'x8'x18"	CY	2
	32209A	Place 1-1/4" minus crushed aggregate surfacing - 4'x8'x3"	TON	1
	40401	Place Hot Mix Asphalt, 1/2" Agg, AR 4000 Oil Mix - 3" Depth	TON	1
6.45	32209A	Place 1-1/4" minus crushed aggregate surfacin - 8'x14'x3"	TON	2
6.51	40401	Place Hot Mix Asphalt, 1/2" Agg, AR 4000 Oil Mix - 14'x10'x3"	TON	5
6.58	32209A	Place 1-1/4" minus crushed aggregate surfacin - 14'x50'x3"	TON	11
6.62	32209A	Place 1-1/4" minus crushed aggregate surfacin - 14'x14'x3"	TON	3
6.64	32209A	Place 1-1/4" minus crushed aggregate surfacin - 14'x14'x3"	TON	3
6.70	32209A	Place 1-1/4" minus crushed aggregate surfacin - 14'x50'x3"	TON	11
6.75-6.77	20419	Ditch Reconstruction - Right	LF	100
6.90	32209A	Place 1-1/4" minus crushed aggregate surfacin - 14'x15'x3"	TON	4
6.95	32209A	Place 1-1/4" minus crushed aggregate surfacing - 45'x14'x3"	TON	10
7.00	32209A	Place 1-1/4" minus crushed aggregate surfacing - 65'x14'x3"	TON	15
7.15	32209A	Place 1-1/4" minus crushed aggregate surfacin - 14'x8'x3"	TON	2
7.18	32209A	Place 1-1/4" minus crushed aggregate surfacing - 45'x14'x3"	TON	10

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 12	OF 60
ROAD 1700 - MP 6.00 to 14.00 - CONTINUED				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
	Road Work for Road 1700 Continued			
7.26 to 7.31	20419	Reconstruct Ditch - Right	LF	250
	62503	Seed and mulch	SY	166
7.40	32209A	Place 1-1/4" minus crushed aggregate surfacing - 35'x14'x3"	TON	8
7.45	32209A	Place 1-1/4" minus crushed aggregate surfacing 100'x14'x3"	TON	20
7.53	25101B	Place Class 5 Riprap outlet apron on existing 18" culvert	CY	7
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	4
7.80		Clean existing 36" culvert, construct riprap embankment (See Detail A, Sh. 53)		
	60790	Remove debris from inside of culvert	EA	1
	25101B	Place Class 5 riprap apron and embankement for existing culvert	CY	150
	20701	Place Geotextile Type 1V-A non-woven fabric under riprap	SY	100
7.82	20105	Clear and Grub for Loaded Log Truck Turnaround - 70'x50'	SY	390
	32209B	Place 2-4" crushed rock	CY	85
	62503	Seed and mulch bare soil	SY	78
7.87	20419	Reconstruct Ditch - Right	LF	20
	62503	Seed and mulch	SY	13
7.92	32209A	Place 1-1/4" minus crushed aggregate surfacing - 60'x14'x3"	TON	13
8.04		**Jct. with Road 1705 Right**		
8.15		**Gee Creek Bridge**		
8.20	20105	Clear and Grub for Loaded Log Truck Turnaround - 60'x80'	SY	533
	32209B	Place 2-4" crushed rock	CY	145
	62503	Seed and mulch bare soil	SY	53
8.30		**Jct. with Road 1700015 Right**		
8.97		**Jct. with Road 1715 Left**		
9.45		**Jct. with Road 1700025 Right**		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 13	OF 60
ROAD 1700 - MP 6.00 to 14.00 - CONTINUED				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
	Road Work for Road 1700 Continued			
9.46		Repair sinkhole on outside (left) shoulder		
	20303	Remove asphalt 6'x10'	SY	7
	20401A	Roadway Excavation - 4'x8'x2'	CY	4.0
	32209B	Place 2-4" crushed aggregate base - 4'x8'x18"	CY	2
	32209A	Place 1-1/4" minus crushed aggregate surfacing - 4'x8'x3"	TON	1
	40401	Place Hot Mix Asphalt, 1/2" Agg, AR 4000 Oil Mix - 3" Depth	TON	1
9.50	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	2
10.15	32209A	Place 1-1/4" minus crushed aggregate surfacing - 20'x14'x3"	TON	5
10.18	32209A	Place 1-1/4" minus crushed aggregate surfacing - 45'x14'x3"	TON	10
10.21	32209A	Place 1-1/4" minus crushed aggregate surfacing - 130'x14'x3"	TON	30
10.47	40401	Place Hot Mix Asphalt, 1/2" Agg, AR 4000 Oil Mix, 14'x15'x3"	TON	2
10.48	20105	Clear and Grub for Loaded Log Truck Turnaround	SY	670
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	62
	62503	Seed and mulch	SY	67
10.57		**Jct. with Road 1720 Right**		
11.36		**Jct. with Road 1700016 Right**		
11.50		**Finney Creek Bridge (Water Source Location)**		
	25101C	Place Class 7 riprap for abutment protection, both ends	CY	30
	25302	Install gabion structure, both ends (See Typical Detail Sh. 50-51)	CY	20
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	9
	40401	Place Hot Mix Asphalt, 1/2" Agg, AR 4000 Oil Mix	TON	18
	62503	Seed and mulch	SY	20
11.60		**Jct. with Road 1730 Left**		
11.62-11.64	32209A	Place 1-1/4" minus crushed aggregate surfacing - 150'x14'x3"	TON	33
11.99	40401	Place HMA, 1/2" Agg, AR 4000 Oil Mix (Fill Dip 25'x14'x6")	TON	13

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 14	OF 60
ROAD 1700 - MP 6.00 to 14.00 - CONTINUED				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
	Road Work for Road 1700 Continued			
13.01		Existing concrete ford		
	63307	Install mountable tubular markers w/ white retroreflective tape	EA	8
13.03	32209A	Place 1-1/4" minus crushed aggregate surfacing - 16'x20'x6"	TON	10
	40401	Place Hot Mix Asphalt, 1/2" Agg, AR 4000 Oil Mix - 16'x20'x3"	TON	7
13.10		**Jct. with Road 1735 Left**		
		Expand roadway right for left turn off of Road 1735		
	20105	Clear and Grub	SY	333
	32209B	Place 2-4" crushed rock	CY	90
13.28 - 13.3	25101B	Place Class 5 riprap in 5 locations of ditchline (See Sh. 48-49)	CY	43
		Qty per Loc., #1=5CY; #2=5CY; #3=8CY; #4=10CY; #5=15CY		
13.30	25101B	Place Class 5 riprap on existing 72" culvert (See Detail A, Sh. 53)	CY	20
13.55		**Jct. with Road 1800 Left**		
13.99		**Jct. with Road 1740 Right**		
14.00		End Roadside Brushing		
		End Road Reconditioning		
		End of Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 15	OF 60
ROAD 1700015 - MP 0.00 to 0.70 (Sta. 0+00 to 36+00)				
Mile Post (Station)	***Item***	***Description***	***Units***	***Estimated Quantity***
(0+00)	**Begin Specified Road Work for Road 1700015,** (Jct. w/ Road 1700, MP 8.3)			
(0+00)	20157	Begin Roadway Clearing	MILE	0.70
	23050A	Begin Roadside Brushing ML 1 Road	Mile	0.70
	30322C	Begin Road Reconditioning ML 1 Road	Mile	0.70
(11+60-11+62)	20401A	Road washout, shift 6' into hillside for 100'	CY	70
	62503	Seed and mulch	SY	133
(12+60)	20420	Construct driveable dip (See Typical Detail Sh. 47)	EA	1
	32209B	Install 2-4" drain rock	CY	15
	25101B	Install Class 5 riprap apron	CY	5
(18+70)		**Jct. with Temp Road 10A-A**		
(24+60)	20420	Construct driveable dip (See Typical Detail Sh. 47)	EA	1
	32209B	Install 2-4" drain rock	CY	15
	25101B	Install Class 5 riprap apron	CY	5
(25+25)		**Truck turnaround**		
(26+40)	20401A	Place fill to reconstruct outside road shoulder	CY	30
	62503	Seed and mulch	SY	30
(31+30)	20401A	Construct truck turnaround	CY	100
(36+00)		End Roadside Brushing		
		End Road Reconditioning		
		End of Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 16	OF 60
ROAD 1700016 - MP 0.00 to 0.12				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
0.00	**Begin Specified Road Work for Rd 1700016,** (Jct. w/ Rd 1700, MP 11.36)			
0.00	23050A	Begin Roadside Brushing ML 1 Road	Mile	0.12
0.00-0.02	20401A	Widen roadway left (40'x8') and right (100'x13'), (See Detail Sh. 55)	CY	30.00
	20105	Clear and Grub	SY	200
	32209A	Place 1-1/4" minus crushed aggregate	TON	52
	62503	Seed and mulch	SY	90
0.06		**Jct. Temp. Road 12B-A**		
0.12		End Roadside Brushing		
		Designated Waste Area		
		End of Road Work		
		End of Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 17	OF 60
ROAD 1700025 - MP 0.00 to 0.18 (Sta. 0+00 to 9+50)				
Mile Post (Station)	***Item***	***Description***	***Units***	***Estimated Quantity***
(0+00)	**Begin Specified Road Work for Road 1700025,** (Jct. w/ Road 1700, MP 9.45)			
(0+00)	20157	Begin Roadway Clearing	MILE	0.18
	23050A	Begin Roadside Brushing ML 1 Road	Mile	0.18
	30322C	Begin Road Reconditioning ML 1 Road	Mile	0.18
(0+60)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10.00
(1+20)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10.00
(1+85)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10.00
(3+50)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10.00
(6+40)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10.00
(7+55)	20420	Construct driveable dip (See Typical Detail Sh. 47)	EA	1.00
	32209B	Install 2-4" drain rock	CY	15.00
	25101B	Install Class 5 riprap apron	CY	5.00
(8+00)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10.00
(9+50)		End Roadside Brushing		
		End Road Reconditioning		
		Jct. with Temp. Road 11A-A		
		End of Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 18	OF 60
ROAD 1705 - MP 0.00 to 5.00				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
0.00	**Begin Specified Road Work for Road 1705,** (Jct. with Road 1700, MP 8.04)			
0.00 to 5.00	23050A	Begin Roadside Brushing ML 2 Road	Mile	5.00
	30322B	Begin Road Reconditioning ML 2 Road	Mile	5.00
0.04		**Switchback Right**		
0.23		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.36		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.42		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.52		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.57		**Switchback Left**		
0.75		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.85		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
1.06		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
1.22		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
1.25		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
1.33		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
1.43		**Switchback Right**		
1.54		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 19	OF 60
ROAD 1705 - MP 0.00 to 5.00 Continued				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
	Road Work for Road 1705 Continued			
1.57		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
1.65		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
1.82		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
1.88		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
1.91	20419	Reconstruct ditch for 100', haul waste to disposal site	LF	100
1.93		**Switchback Left**		
2.00		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
2.27		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
2.45		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
2.47		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
2.65		**Switchback Right**		
2.72		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
2.82		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
2.85		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
3.06		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 20	OF 60
ROAD 1705 - MP 0.00 to 5.00 Continued				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
	Road Work for Road 1705 Continued			
3.13		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	8
3.40		**Large Turnout Right**		
3.42		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	8
3.46		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing 100'x12'x4"	TON	27
3.69		**Switchback Left, Jct. with Road 1708 and Truck Turnaround**		
3.73		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	8
3.85	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	13
3.90		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	8
3.93		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	8
4.02		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	8
4.23		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	8
4.41		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	8
4.52		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	8
4.58		Repair Shoulder Slump Left, Widen Roadway (See Detail, SH 56)		
	20401A	Roadway Exc., cut road down by 18" and fill left shoulder for 125'	CY	80
	26201A	Place Geogrid Type 1, 16'Wx125'L	SY	225
	32209B	Place 2-4" base rock 12" thick	CY	110
	32209A	Place 1-1/4" minus crushed rock 6" thick	TON	47

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 21	OF 60
ROAD 1705 - MP 0.00 to 5.00 Continued				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
	Road Work for Road 1705 Continued			
4.66		**Switchback Right, Truck Turnaround**		
4.86		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	8
4.98		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	8
5.00		End Roadside Brushing		
		End Road Reconditioning		
		End of Roadwork, Truck Turnaround		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 22	OF 60
ROAD 1715 - MP 0.00 to 0.50				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
0.00	**Begin Specified Road Work for Road 1715,** (Jct. with Road 1700, MP 8.97)			
0.00 to 0.49	23050A	Begin Roadside Brushing ML 2 Road	Mile	0.49
	30322B	Begin Road Reconditioning ML 2 Road	Mile	0.49
0.02	20401A	Roadway Excavation - Reconstruct Ditch Right for 75'	CY	15
	62503	Seed and mulch	SY	50
0.30		Existing Finney Creek Bridge		
0.40	20401A	Roadway Excavation - Reconstruct Ditch Right for 100'	CY	30
	62503	Seed and mulch	SY	66
0.50		End Roadside Brushing		
		End Road Reconditioning		
		Jct. with Road 1715011		
		End of Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 23	OF 60
ROAD 1715011 - MP 0.00 to 1.00				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
0.00	**Begin Specified Road Work for Road 1715011,** (Jct. w/ Road 1715, MP 0.49)			
0.00 to 1.00	23050A	Begin Roadside Brushing ML 2 Road	Mile	1.00
	30322B	Begin Road Reconditioning ML 2 Road	Mile	1.00
0.10		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.23		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.24	25101B	Construct Class 5 riprap outlet of existing 18" culvert	CY	5
	60790	Recondition culvert inlet	EA	1
	20419	Reconstruct ditch 50' uphill of the culvert	LF	50
	62503	Seed and mulch	SY	33
0.30	60790	Recondition culvert inlet	EA	1
0.42		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.45		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.51		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.55		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.61		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.75		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.83		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
0.91		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
1.00		End Roadside Brushing		
		End Road Reconditioning		
		Small quantity riprap borrow source and waste site		
		End of Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 24	OF 60
ROAD 1720 - MP 0.00 to 4.06				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
0.00	**Begin Specified Road Work for Road 1720,** (Jct. with Road 1700, MP 10.57)			
0.0-2.1	23050B	Roadside Brushing ML 3 Road	Mile	2.10
	30322A	Road Reconditioning ML 3 Road	Mile	2.10
0.20		**Jct. w/ Temp Road 12C-A Right**		
0.28	32209A	Place 1-1/4" minus crushed aggregate 75'x14'x4"	TON	21
0.35	25101A	Place Class 3 Riprap along ditch to protect from erosion	CY	20
0.91		**Switchback Right**		
1.03		**Jct. w/ Road 1721 Right, Switchback Left**		
1.33		Shoulder Embankment Repair - (See Detail A, Sh. 52)		
	20401A	Place unclassified borrow material on outside shoulder	CY	10
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
2.10		**Jct. w/ Road 1722 Right**		
2.22		**Jct. w/ Temp. Road 20A Left**		
2.1 - 4.06	23050A	Roadside Brushing ML 2 Road	Mile	1.96
	30322B	Road Reconditioning ML 2 Road	Mile	1.96
3.15		**Waste Site Right**		
3.20	20401A	Reconstruct Ditch Dam	CY	2
	32209A	Place 1-1/4" minus crushed aggregate 45'x12'x4"	TON	12
3.46		**Switchback Right**		
3.65		**Switchback Left**		
3.85		**Switchback Right**		
3.85		Construct Truck Turnaround at switchback - 40'x40'		
	20105	Clear and Grub	SY	180
	32209B	Place 2-4" crushed rock	CY	65
	62503	Seed and mulch	SY	18

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST	SHEET 25	OF 60

ROAD 1720 - MP 0.00 to 4.06 Continued

Mile Post	*Item*	*Description*	*Units*	*Estimated Quantity*
	Road Work for Road 1720 Continued			
3.91	20301	Remove existing 24" CMP	EA	1
	20950	Place pipe bedding	TON	3
	60275A	Install new 18" HDPE, same skew, 22% grade	LF	38
	25101C	Install Class 7 riprap apron	CY	10
	32209A	Place 1-1/4" minus crushed aggregate	TON	8
	62503	Seed and mulch	SY	70
3.92	60275B	Install new 24" HDPE	LF	38
	20950	Place pipe bedding	TON	3
	25101A	Install Class 3 riprap headwall	CY	3
	25101B	Install Class 5 riprap apron	CY	5
	32209A	Place 1-1/4" minus crushed aggregate	TON	8
	62503	Seed and mulch	SY	70
4.06		End Roadside Brushing		
		End Road Reconditioning		
		End Specified Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 26	OF 60
ROAD 1720011 - MP 0.00 to 0.23 (Sta. 0+00 to 12+00)				
Mile Post (Station)	***Item***	***Description***	***Units***	***Estimated Quantity***
(0+00)	**Begin Specified Road Work for Road 1720011 At Sale Unit 60 Boundary**			
(0+00)	20157	Begin Roadway Clearing and Grubbing	MILE	0.30
	23050A	Begin Roadside Brushing ML 1 Road	Mile	0.30
	30322C	Begin Road Reconditioning ML 1 Road	Mile	0.30
(1+95)		**Jct. with Temp Road 20-A Right**		
(6+20)		Existing waterbar, remove during grading, replace during post haul		
	20401A	Widen roadway, shift 4' into the hillside for 115', utilize material to rebuild oustide shoulder.	CY	140
	32209A	Place 1-1/4" minus crushed aggregate	TON	27
	62503	Seed and mulch	SY	260
(8+05)	20420	Construct driveable dip (See Typical Detail Sh. 47)	EA	1.00
	32209B	Install 2-4" drain rock	CY	15.00
	25101B	Install Class 5 riprap apron	CY	5.00
(9+15)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
(10+00)		**Jct. with Temp Road 20-B Right**		
		Switchback Left		
		Last Truck Turnaround Location		
(11+55)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
(12+00)		End Roadside Brushing		
		End Road Reconditioning		
		End of Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 27	OF 60
ROAD 1721 - MP 0.00 to 0.31 (0+00 to 16+10)				
Mile Post (Station)	***Item***	***Description***	***Units***	***Estimated Quantity***
(0+00)	**Begin Specified Road Work for Road 1721,** (Jct. with Road 1720, MP 1.03)			
(0+00)	20157	Begin Roadway Clearing and Grubbing	MILE	0.31
	23050A	Begin Roadside Brushing ML 1 Road	Mile	0.31
	30322C	Begin Road Reconditioning ML 1 Road	Mile	0.31
(0+65)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
(1+90)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
(3+80)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
(5+05)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
(6+40)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
(7+70)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
(8+70)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
(9+75)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
(10+45)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
(11+25)	20420	Construct driveable dip (See Typical Detail Sh. 47)	EA	1.00
	32209B	Install 2-4" drain rock	CY	15.00
	25101B	Install Class 5 riprap apron	CY	5.00
(11+70)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
(12+75)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 28	OF 60
ROAD 1721 - MP 0.00 to 0.31 (0+00 to 16+10) Continued				
Mile Post (Station)	***Item***	***Description***	***Units***	***Estimated Quantity***
	Specified Road Work for Road 1721 Continued			
(13+15)	20420	Construct driveable dip (See Typical Detail Sh. 47)	EA	1.00
	32209B	Install 2-4" drain rock	CY	15.00
	25101B	Install Class 5 riprap apron	CY	5.00
(13+90)		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
(14+10)		Truck turnaround		
	32209A	Place 1-1/4" minus crushed aggregate	TON	32
(15+20)		Existing waterbar, remove during grading, replace during post haul		
(16+10)		End Roadside Brushing		
		End Road Reconditioning		
		End of Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 29	OF 60
ROAD 1722 - MP 0.00 to 1.32				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
0.00	**Begin Specified Road Work for Road 1722,** (Jct. with Road 1720, MP 2.10)			
	23050A	Begin Roadside Brushing ML 2 Road	Mile	1.32
	30322B	Begin Road Reconditioning ML 2 Road	Mile	1.32
0.09		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
0.10		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
0.16		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
0.26		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
0.38		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
0.61		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
0.75		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
0.90		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
1.09		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
1.29		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10
	25101B	Reinforce shoulder with Class 5 riprap apron	CY	10.00
1.32		End Roadside Brushing		
		End Road Reconditioning		
		Jct. with Road 1722015, Truck Turnaround		
		End Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 30	OF 60
ROAD 1722015 - MP 0.00 to 0.30 (Station 0+00 to 15+55)				
Mile Post (Station)	***Item***	***Description***	***Units***	***Estimated Quantity***
(0+00)	**Begin Specified Road Work for Rd 1722015,** (Jct. with Rd 1722, MP 1.32)			
(0+00)	20401A	Roadway Excavation - Remove earth berm, replace during post haul	CY	20
(0+00-15+55)	20401D	Reconstruct road prism to a 12' road width	LS	1
	32209B	Place 2-4" rock on road - 1555'x12'x6"	CY	345
	20157	Begin Roadway Clearing and Grubbing	MILE	0.30
	23050A	Begin Roadside Brushing ML 1 Road	Mile	0.30
(1+10)	60275B	Install 24" Culvert, 32' long, 90° skew, and 10% grade	LF	32
	20950	Place pipe bedding	TON	3
	62503	Seed and mulch	SY	70
(1+75)	60275B	Install 24" Culvert, 32' long, 125° skew, and 15% grade	LF	32
	20950	Place pipe bedding	TON	3
	25101B	Riprap Apron - Class 5	CY	3
	62503	Seed and mulch	SY	70
(3+10)		Existing waterbar to be leveled during road reconstruction		
(4+15)	60275A	Install 18" Culvert, 34' long, 125° skew, and 15% grade	LF	34
	20950	Place pipe bedding	TON	3
	25101B	Riprap Apron - Class 5	CY	3
	62503	Seed and mulch	SY	70
(5+90)		Existing waterbar to be leveled during road reconstruction		
(6+90)	60275A	Install 18" Culvert, 32' long, 110° skew, and 11% grade	LF	32
	20950	Place pipe bedding	TON	3
	25101B	Riprap Apron - Class 5	CY	3
	62503	Seed and mulch	SY	70
(7+50)		Existing waterbar to be leveled during road reconstruction		
(9+15-10+20)	20401A	Construct Truck Turnaround (40'x40')	CY	111
	62503	Seed and mulch	SY	12
(9+35)	60275B	Install 24" Culvert, 40' long, 110° skew, and 8% grade	LF	40
	20950	Place pipe bedding	TON	4
	25101B	Riprap Apron - Class 5	CY	3
	62503	Seed and mulch	SY	70

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST				SHEET 31	OF 60
ROAD 1722015 - MP 0.00 to 0.30 (Station 0+00 to 15+55) Continued					
Mile Post (Station)	***Item***	***Description***	***Units***	***Estimated Quantity***	
	Specified Road Work for Rd 1722015 Continued				
(10+20)	60275B	Install 24" Culvert, 34' long, 80° skew, and 16% grade	LF	34	
	20950	Place pipe bedding	TON	3	
	25101B	Riprap Apron - Class 5	CY	3	
	62503	Seed and mulch	SY	70	
(12+95)	60275A	Install 18" Culvert, 38' long, 105° skew, and 11% grade	LF	38	
	20950	Place pipe bedding	TON	3	
	25101B	Riprap Apron - Class 5	CY	3	
	62503	Seed and mulch	SY	70	
(14+75)	60275A	Install 18" Culvert, 44' long, 125° skew, and 16% grade	LF	44	
	20950	Place pipe bedding	TON	4	
	25101B	Riprap Apron - Class 5	CY	3	
	62503	Seed and mulch	SY	70	
(15+55)		**End of Road Work**			

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 32	OF 60
ROAD 1730 - MP 0.00 to 0.65				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
0.00	**Begin Specified Road Work for Road 1730,** (Jct. with Road 1700, MP 11.6)			
0.00	23050A	Begin Roadside Brushing ML 2 Road	Mile	0.31
	30322B	Begin Road Reconditioning ML 2 Road	Mile	0.31
0.04		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10.00
0.15		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10.00
0.33		Existing concrete ford		
	63307	Install mountable tubular markers w/ white retroreflective tape	EA	8
0.37		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10.00
0.42		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10.00
0.45		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10.00
0.57		Existing waterbar, remove during grading, replace during post haul		
	32209A	Place 1-1/4" minus crushed aggregate	TON	10.00
0.62		**Jct. with Road 1730524 Right**		
0.65		End Roadside Brushing		
		End Road Reconditioning		
		End of Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 33	OF 60
ROAD 1730524 - MP 0.00 to 0.10				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
0.00	**Begin Specified Road Work for Road 1730524,** (Jct. w/ Road 1730, MP 0.62)			
0.00	23050A	Begin Roadside Brushing ML 1 Road	Mile	0.10
0.00	20105	Clear and Grub 20'wideX40'long area to right for larger intersection	SY	90
	32209B	Place 2-4" rock	CY	40
	62503	Seed and mulch	SY	10
0.03		**Truck Turnaround**		
0.10		End Roadside Brushing		
		End of Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 34	OF 60
ROAD 1735 - MP 0.00 to 2.00				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
0.00	**Begin Specified Road Work for Road 1735,** (Jct. with Road 1700, MP 13.10)			
0.00 to 2.00	23050A	Begin Roadside Brushing ML 2 Road	Mile	2.00
	30322B	Begin Road Reconditioning ML 2 Road	Mile	2.00
0.27		**Switchback Left**		
0.35	60275B	Install New 24" HDPE Culvert, 90deg skew, 19% grade	LF	30
	20950	Place Culvert bedding	TON	5
	25101A	Place Class 3 Riprap for inlet headwall	CY	2
	25101B	Construct Class 5 Riprap Wall 20' x 11' x 3' - See Detail A, Sh. 53	CY	25
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	3
	62503	Seed and mulch	SY	70
0.66		Reconstruct road grade as shown on Sheet 57		
	20401C	Roadway Excavation	LS	1
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	35
	62503	Seed and mulch	SY	188
0.69		Exisitng concrete ford		
	63307	Install mountable tubular markers w/ white retroreflective tape	EA	8
1.16		Existing Damaged 18" Aluminum Culvert with Flume		
	20301	Remove existing CMP and Flume	EA	1
	60275A	Install new 18" HDPE Culvert (match existing alignment and grade)	LF	32
	20950	Place Culvert bedding	TON	5
	25101B	Place Class 5 Riprap for inlet headwall and outlet apron	CY	5
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
	62503	Seed and mulch	SY	70
1.63	60275B	Install New 24" HDPE Culvert (70deg skew, 17% gradient)	LF	38
	20950	Place Culvert bedding	TON	5
	25101B	Place Class 5 Riprap for inlet headwall and outlet apron	CY	5
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
	62503	Seed and mulch	SY	70

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 35	OF 60
ROAD 1735 - MP 0.00 to 2.00 Continued				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
	Road Work for Road 1735 Continued			
1.71		Existing Live Stream At Alluvial Fan Runs in Ditch 40' to Existing Culvert		
	60275C	Install new 36" HDPE Culvert (90deg skew, 23% gradient)	LF	40
	20950	Place Culvert bedding	TON	7
	25101B	Place Class 5 Riprap for inlet headwall and outlet apron	CY	10
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
	62503	Seed and mulch	SY	80
1.88	20419	Reconstruction Ditch	LF	50
	62503	Seed and mulch	SY	33
2.00		**Existing Landing**		
		Construct 40' radius turnaround		
	20105	Clear and Grub	SY	180
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	50
	62503	Seed and mulch	SY	18
2.00		End Roadside Brushing		
		End Road Reconditioning		
		End Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 36	OF 60
ROAD 1740 - MP 0.00 to 0.75				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
0.00	**Begin Specified Road Work for Road 1740,** (Jct. with Road 1700, MP 13.99)			
0.00 to 0.80	23050A	Begin Roadside Brushing ML 2 Road	Mile	0.75
	30322B	Begin Road Reconditioning ML 2 Road	Mile	0.75
0.10		**Jct. with Road 1740011 Right**		
0.45		Existing 18" Culvert		
	60790	Recondition Culvert Cleaning Inlet - Inside - Outlet	EA	1
0.49		Existing 18" Culvert		
	60790	Recondition Culvert Cleaning Inlet - Inside - Outlet	EA	1
0.52		Existing 18" Culvert		
	60790	Recondition Culvert Cleaning Inlet - Inside - Outlet	EA	1
0.57		Existing 18" Culvert		
	60790	Recondition Culvert Cleaning Inlet - Inside - Outlet	EA	1
0.75		End Roadside Brushing		
		End Road Reconditioning		
	End Specified Road Work at Entrance to Existing Finney Rock Pit			
0.80		Finney Rock Pit		
	65102	Pit Development per Pit Plan - See Typical	LS	1

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 37	OF 60
ROAD 1740111 - MP 0.00 to 0.19				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
0.00	**Begin Specified Road Work for Road 1740111,** (Jct. w/ Road 1740, MP 0.1)			
0.00 to 0.19	23050A	Begin Roadside Brushing ML 1 Road	Mile	0.19
	30322C	Begin Road Reconditioning ML 1 Road	Mile	0.19
0.01	20420	Construct drivable dip (See Typical Detail Sh. 47)	EA	1
	32209B	Install 2-4" drain rock	CY	15
0.12	60790	Recondition Existing 18" Culvert Inlet and Outlet	EA	1
0.17 to 0.19	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	30
0.19		Construct Truck Turnaround - 40'x40'		
	20105	Clear and Grub	SY	180
	32209B	Place 2-4" crushed rock	CY	100
	62503	Seed and mulch	SY	18
		End of Road Work		

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST			SHEET 38	OF 60
ROAD 1800 - MP 0.00 to 21.10				
Mile Post	***Item***	***Description***	***Units***	***Estimated Quantity***
0.00	**Begin Specified Road Work for Road 1800,** (Jct. with County Road)			
0.0 to 21.10	23050B	Begin Roadside Brushing ML 3 Road	Mile	21.10
	30322A	Begin Road Reconditioning ML 3 Road	Mile	21.10
1.10		**Jct. with Private Road Left to Skaglund Pit**		
2.05		**Jct. with Road 1880**		
2.25		**DNR Spur Rd Right**		
3.1 - 3.3		Begin Rough Road Segment		
	20419	Ditch Reconstruction - Haul excavated material to MP 4.4 Disposal Site	LF	500
	62503	Seed and mulch	SY	333
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	40
3.90		**Jct. with DNR Road - Right**		
4.00		**Jct. with DNR Road - Left**		
4.40		**FS Sno Park - Waste Disposal Site at Designated locations**		
7.30		**Switchback Left**		
9.65		**Existing Borrow Site Right; Waste Area Left**		
10.48	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	20
10.70		**Jct. with Road 1855 - Right**		
12.25		**Waste Area**		
12.52		**Jct. with Road 1850 - Left**		
12.97		**Jct. with Road 1840 - Left**		
13.85		Repair Scour and Construct Riprap Wall at 36' HDPE Culvert - Left		
	25101C	Place Class 7 Riprap at Outlet - See Typical Detail Sheet 55	CY	100
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	10
	62503	Seed and mulch	SY	70
15.2 - 15.3		Widen Road Right by 2 feet into hillside		
	20401A	Widen Roadway 2' on Right - Haul excess waste to Disposal Site or Material may be used to fill dips on Road 18 at MP 16.45, 16.50, 17.20, and 17.93	CY	75

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST	SHEET 39	OF 60

ROAD 1800 - MP 0.00 to 21.10 Continued

Mile Post	*Item*	*Description*	*Units*	*Estimated Quantity*
	Road Work for Road 1800 Continued			
16.25		Existing Concrete Ford		
	63307	Install mountable tubular markers w/ white retroreflective tape	EA	8
16.45		Raise Grade at Dip for uniform grade		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	25
16.50		Raise Grade at Dip for uniform grade		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	25
17.20		Raise Grade at Dip for uniform grade		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	25
17.60		**Borrow Site - Crushed Aggregate Left; Riprap on Bank Right**		
17.63		**Jct. with Road 1820 - Left**		
17.72		**Jct. with Road 1810 - Right**		
17.93		Raise Grade at Dip for uniform grade		
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	25
18.55		Repair Left Side Shoulder Failure - See Typical Detail Sheet 54		
	20401B	Reconstruct Roadway Embankment	LS	1
	60505	Geocomposite Type 1 Sheet Drain System	SY	150
	26201A	Install GeoGrid Category 1 - 3 layers	SY	260
	32209B	Place 2-4" crushed rock	CY	25
	32209A	Place 1-1/4" minus crushed aggregate surfacing	TON	25
	62503	Seed and mulch	SY	85
18.95		Repair Left Side Shoulder Failure - See Typical Detail Sheet 55		
	20401A	Excavation and backfill for shoulder repair	CY	622
	25101C	Construct Class 7 Riprap wall 40'Hx70'Lx4'THICK	CY	415
	60505	Geocomposite Type 1 Sheet Drain System	SY	470
	26201B	Install GeoGrid Type 2 - 10 layers	SY	800
	32209B	Place 2-4" crushed rock backfill and base rock	CY	35
	32209A	Place 1-1/4" minus crushed aggregate surfacing at a depth of 4"	TON	43
	62503	Seed and mulch	SY	85
18.95-19.05	20419	Reconstruct ditch left for 120'	LF	120
	62503	Seed and mulch	SY	80

UPPER FINNEY-CHUTE THIN TIMBER SALE WORK DESCRIPTION LIST	SHEET 40	OF 60

ROAD 1800 - MP 0.00 to 21.10 Continued

Mile Post	*Item*	*Description*	*Units*	*Estimated Quantity*
	Road Work for Road 1800 Continued			
19.10	60275A	Install 18" HDPE, 15% grade, 90 degree skew	LF	40
	20950	Place pipe bedding	TON	3
	25101B	Construct Class 5 riprap headwall and outlet apron	CY	5
	32209A	Place 1-1/4" minus crushed aggregate surfacing at a depth of 4"	TON	3
	62503	Seed and mulch	SY	70
19.95		Existing Concrete Ford		
	63307	Install mountable tubular markers w/ white retroreflective tape	EA	8
21.10		End Roadside Brushing		
		End Road Reconditioning		
		End of Road Work, Jct. with Road 17		

UPPER FINNEY-CHUTE THIN TIMBER SALE

DRAINAGE LISTING

SHEET	OF
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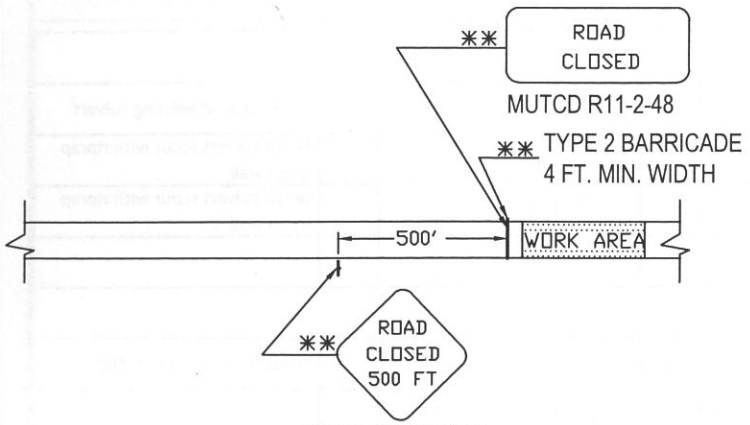
(See the work summary sheets for work description at each location.)

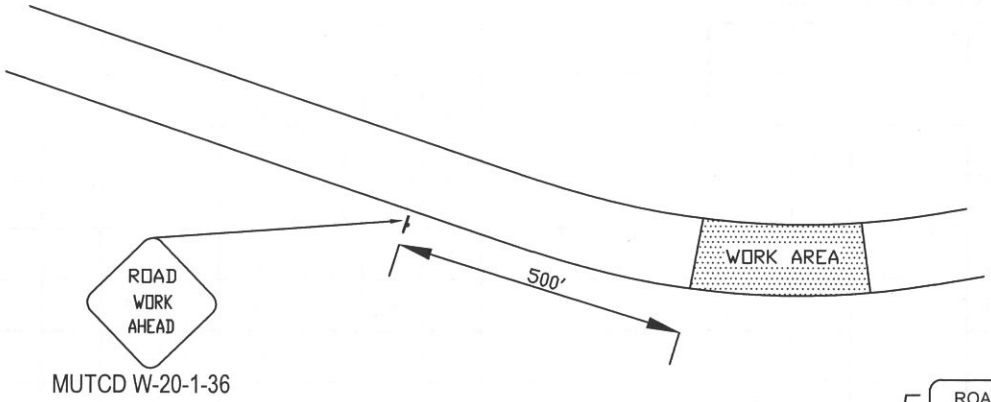
Design		As Built		Allowable Alternatives		Installation Details								Remarks
Mile Post (Station)	L.F.	Mile Post	L.F.	All Pipes Shall Be Plastic Unless Otherwise Specified: Dia. in Inches	All Pipes Shall Be Plastic Unless Otherwise Specified: Corrugations if Metal Pipe is Specified	Type	Grade %	Skew Deg.	Headwall Ditchdam (CY)	Outlet Apron (CY)	Bedding (Ton)	Elbow	Anchor Sets	*Place Class 7 Riprap **Place Class 8 Riprap All Others Class 5 Riprap
ROAD 1700 DRAINAGE LISTING														
7.53				Ex. 18						7				Place apron at existing culvert
7.80										150				Repair culvert scour with riprap apron wall
13.3				Ex. 72						20				Repair culvert scour with riprap apron wall
ROAD 1720 DRAINAGE LISTING														
3.91	38			24		3	22	same	0	10	3			Remove existing 24" culvert
3.92	38			24		1	22	90	3	5	3			
ROAD 1722015 DRAINAGE LISTING														
(1+10)	32			24		3	10	90	0	0	3			
(1+75)	32			24		3	15	125	0	3	3			
(4+15)	34			18		3	15	125	0	3	3			
(6+90)	32			18		3	11	110	0	3	3			
(9+35)	40			24		3	8	110	0	3	4			
(10+20)	34			24		3	8	110	0	3	4			
(12+95)	38			18		3	11	105	0	3	3			
(14+75)	44			18		3	16	125	0	5	4			
ROAD 1735 DRAINAGE LISTING														
0.35	30			24		3	19	90	2	25	3			
1.16	32			18		3	same	same	2	3	5			Remove existing 18" culvert
1.63	38			24		3	17	70	2	3	5			
1.71	40			36		1	23	90	3	7	7			Install at existing live stream
1.71	40			36		1	23	90	3	7	7			Install at existing live stream
ROAD 1800 DRAINAGE LISTING														
13.85				Ex. 36						100				Repair culvert scour with riprap arpon wall
19.05	40			18		3	15	90	2	3	3			

TRAFFIC CONTROL PLAN

TRAFFIC CONTROL PLAN FOR ROAD CLOSURE



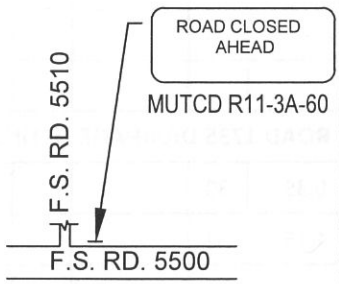
1. Road use authorization per C 5.12, "Use of Roads by Purchaser" in contract.
2. Total road closure per supplemental specifications Section 156 Public Traffic in the contract. Operations at all other times will accommodate traffic.
3. Traffic control devices shall be maintained for duration of closure.
4. All signs shall conform to the MUTCD Sections 2a-11, through 2a-16, 6b-1 and 6b-2 of the 2012 Edition.
5. **Signs are shown for one direction of travel only. The same number and types of signs shall be provided for the opposite direction of travel.



MUTCD W-20-1-36

TRAFFIC CONTROL PLAN FOR TRAFFIC ALLOWED THROUGH WORK AREA

1. Work area shall be in a condition such that it may be safely traversed at night, including channelizing devices if needed.
2. Warning lights shall be used to mark channelizing devices at night as needed.
3. Traffic control devices shall be maintained for duration of work in both directions open to traffic.
4. Signs are shown for one direction of travel only. The same number and types of signs shall be provided for the opposite direction of travel.
5. All signs shall conform to the MUTCD sections 2a-11, through 2a-16, 6b-1 and 6b-2 of the 2012 edition.



SAMPLE ONLY
ACTUAL ROAD NUMBER
MAY NOT MATCH DETAIL
TYPICAL.

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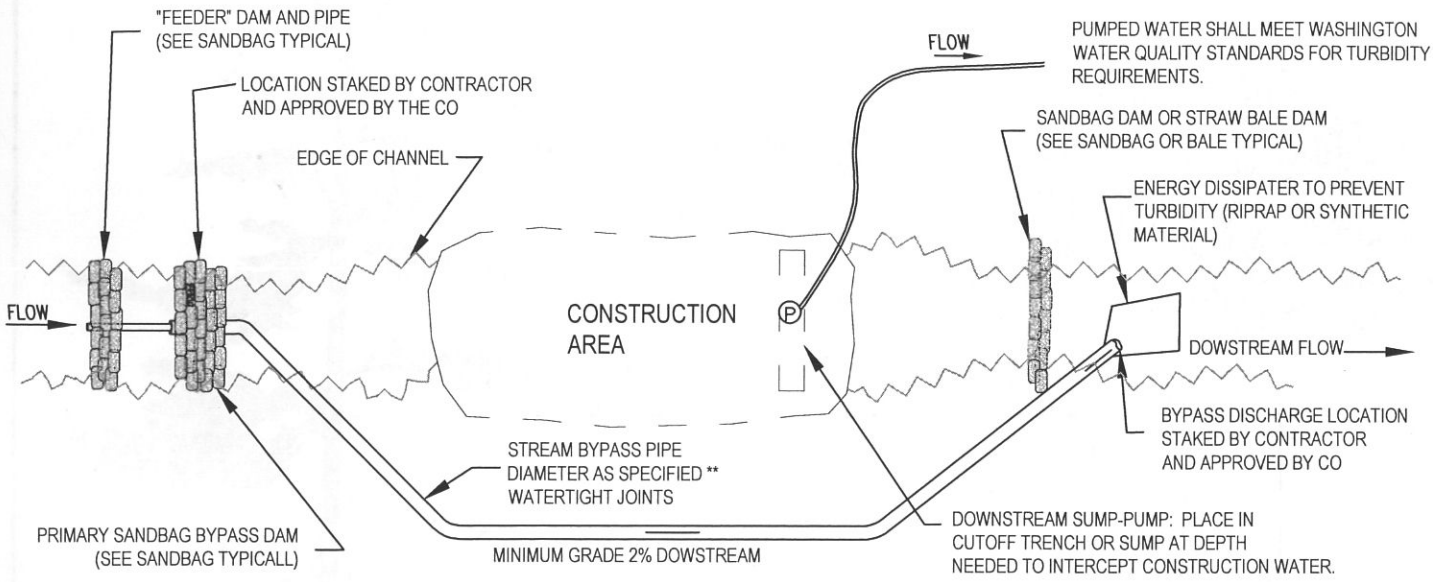
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: TRAFFIC CONTROL

TEMPORARY EROSION CONTROL PLAN



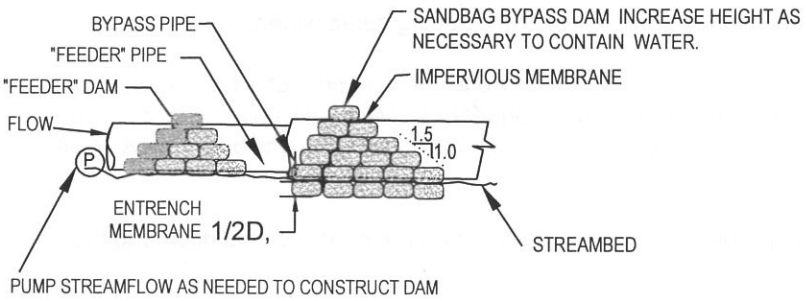
PLAN VIEW
TYPICAL DEWATERING & SEDIMENT CONTROL PLAN

NOT TO SCALE

NOTE:

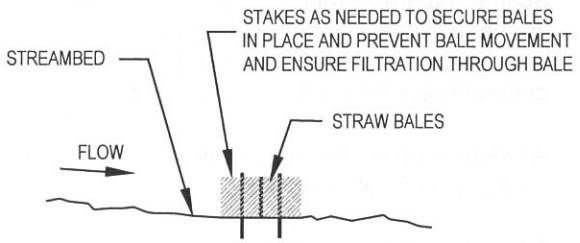
1. Work shall be done under dry conditions. A contingency plan will be submitted prior to beginning construction activities, along with an erosion control plan.
2. Contractor shall protect existing vegetation and will confine excavation to within the clearing limits.
3. When in fish bearing stream, pumps shall be equipped with a fish guard that has a 3/32-inch or smaller mesh to prevent passage of fish into pump.
4. All work shall be done in accordance with the M.O.U./H.P.A. as provided in the Contract documents and shall be onsite at all times during construction.

**The volume of water expected at the dam is unknown. Size pipe or use a combination of siphoning and pumping to divert water around excavation to a suitable treatment area or directly back into stream if approved by the ER.



SECTION VIEW AT STREAMBED INVERT
SANDBAG BYPASS DAM TYPICAL

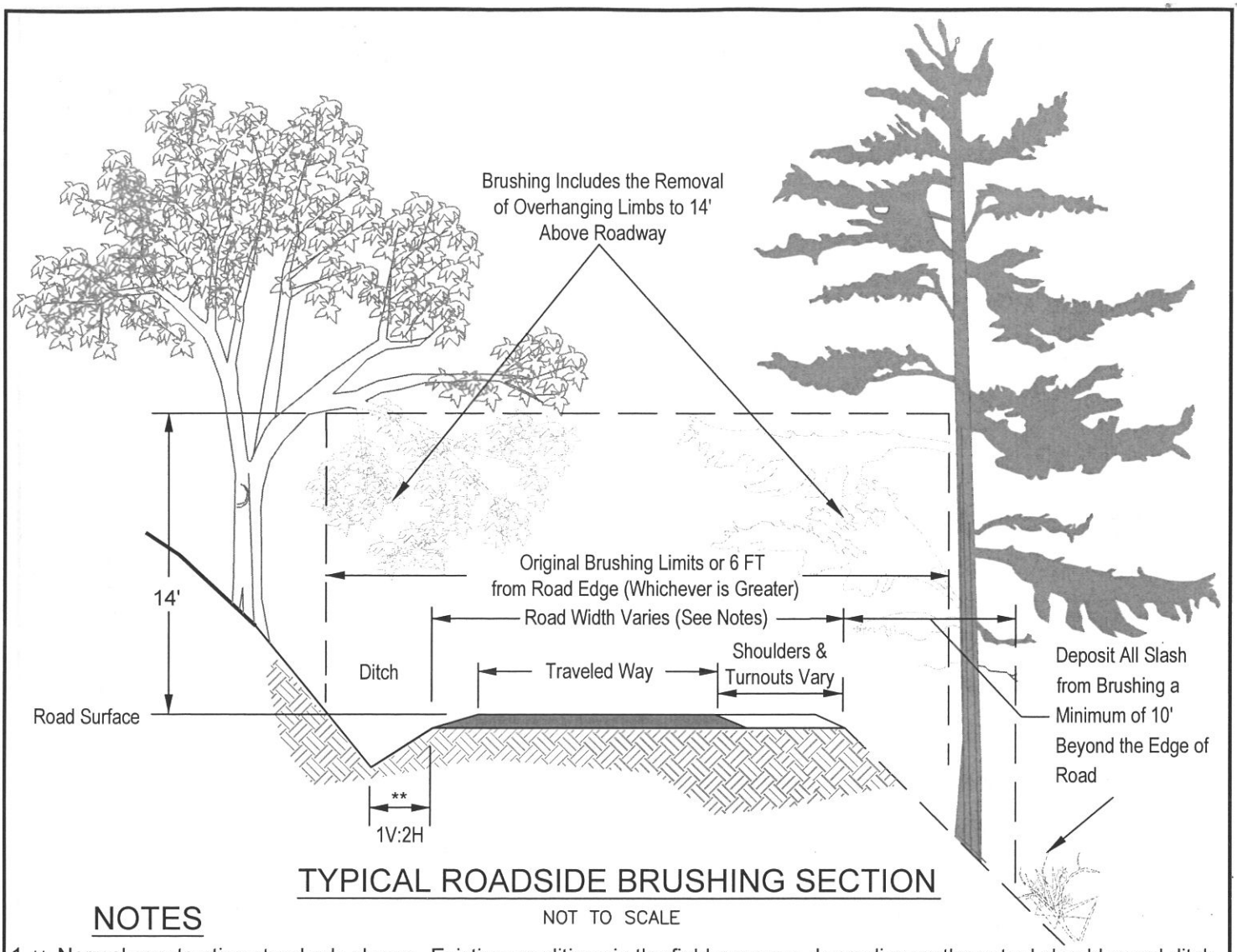
NOT TO SCALE



SECTION VIEW
STRAW BALE DAM TYPICAL

NOT TO SCALE

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE PACIFIC NORTHWEST REGION–6		DATE: July 21, 2014
		SHEET: 43 OF: 60
APPROVED:	DWG NO: 15101–2	DRAWN BY: U. S. FOREST SERVICE
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: EROSION CONTROL



TYPICAL ROADSIDE BRUSHING SECTION

NOT TO SCALE

NOTES

1. ** Normal construction standards shown. Existing conditions in the field may vary depending on the actual shoulder and ditch constructed and maintained.
2. Normal road widths have minimum 12' and maximum 14' wide traveled way not including curve widening and turnouts.
3. Scatter material a minimum of 10 feet beyond the edge of road along the fill slope and a minimum of 5 feet away from drainage areas. Do not deposit slash and debris inside the timber sale unit boundaries. Material within the timber sale unit boundaries shall be hauled to a designated disposal area or scattered in the locations outside the unit boundaries. See general notes for additional information.
4. All vegetation shall be cut within 6" of the ground line or protruding solid object beyond the bottom of the ditch and the roadway reconditioning limits.
5. All culvert catch basins shall be brushed a minimum of 10 foot radius from the culvert inlet.
6. Upon completing mechanical or hand brushing operations, all sticks and limbs larger than 1" in diameter and 18" long shall be removed from the ditchline and roadside and scattered 10' beyond the roadway.

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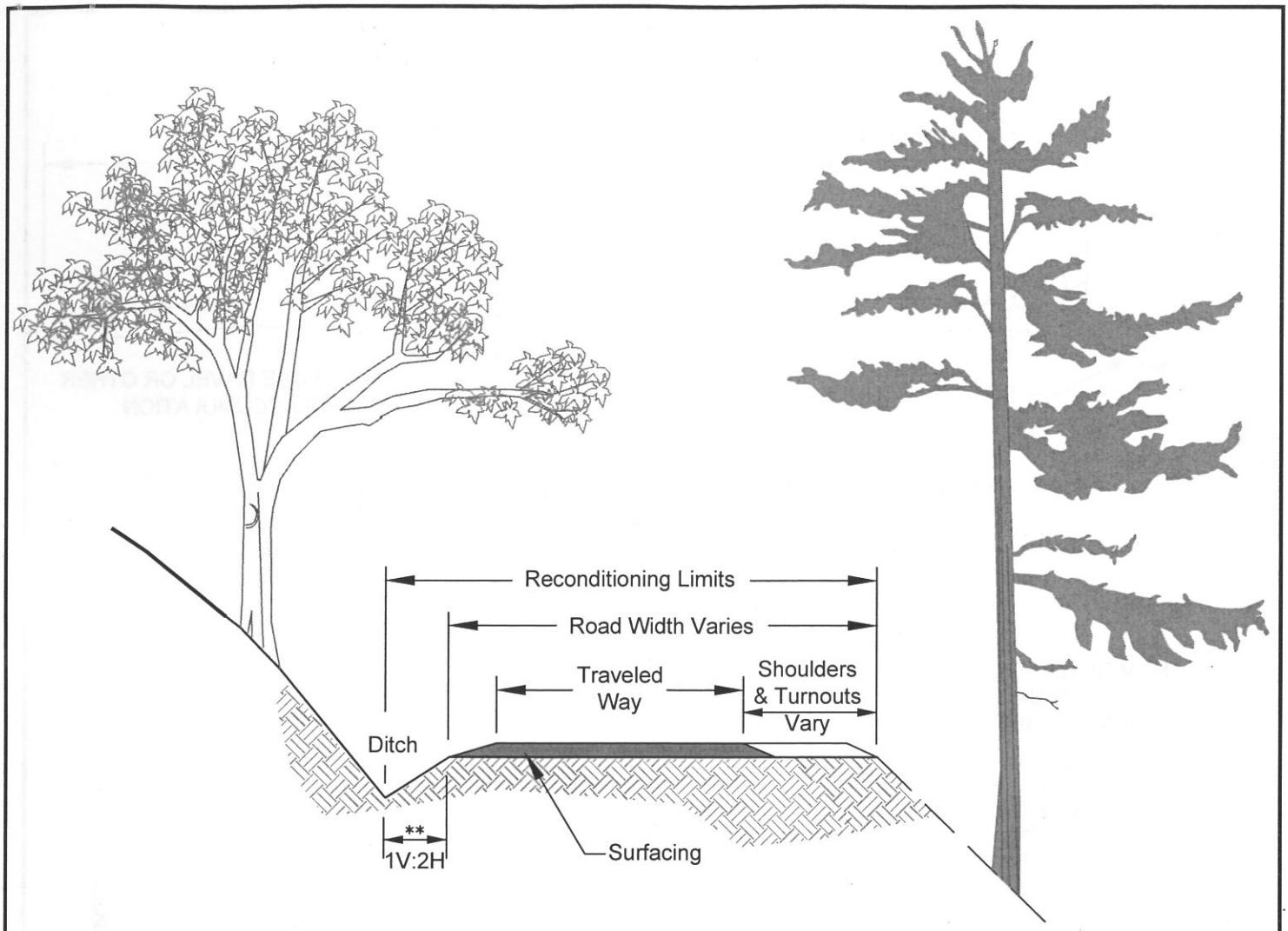
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: ROADSIDE BRUSHING



TYPICAL ROADWAY SECTION

NOT TO SCALE

NOTES

**1. Normal construction standards shown. Existing conditions in the field may vary depending on the actual shoulder and ditch constructed and maintained.

2. Normal road widths have minimum 12' and maximum 14' wide traveled way not including curve widening and turnouts

3. All culvert inlets, catch basins, and outlets shall be cleaned to allow maximum water flow.

4. All culvert outlet ditches and roadway lead-off ditches shall be cleaned and shaped to allow maximum water flow.

5. All unsuitable, excess, and oversize material generated from reconditioning the ditch or roadway shall be removed and distributed uniformly on the fill slope.

6. Roadway shoulder berms shall not be allowed.

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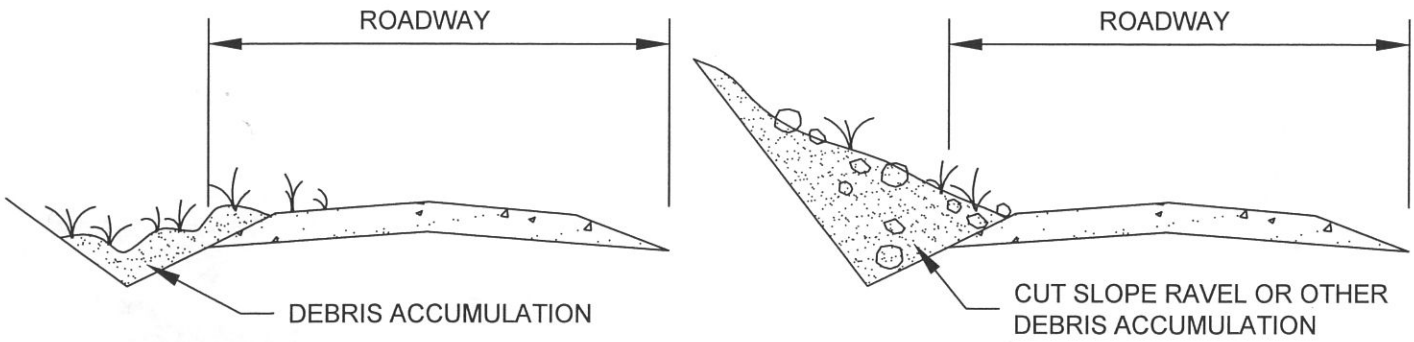
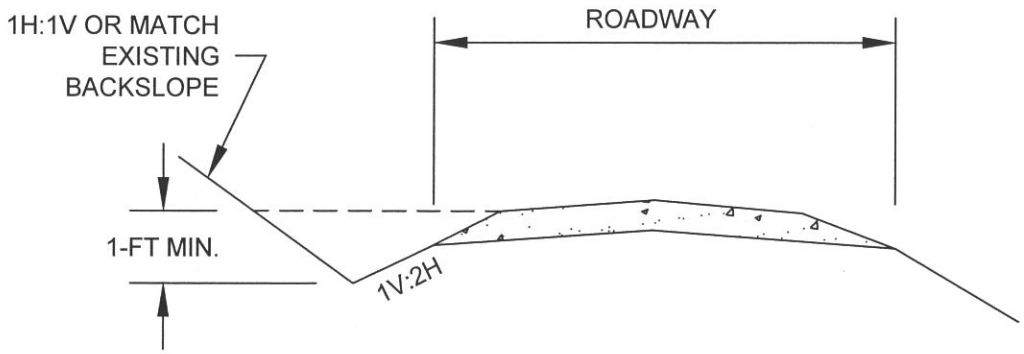
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: ROAD RECONDITIONING



TYPICAL DITCH DEBRIS/OBSTRUCTIONS

NOT TO SCALE



TYPICAL COMPLETED DITCH

NOT TO SCALE

NOTES:

1. Restore ditches identified and staked in the field to the minimum dimensions shown or match existing ditch lines.
2. Loose rock, soil, wood and other materials shall be removed.
3. Suitable material (rocks up to 2" in greatest dimension), may be blended into the roadbed of native surfaces and shoulders, or placed in designated location(s) where excess material is deposited.
4. Excess materials temporarily stored on the ditch-slope or shoulder shall be removed daily.
5. Lead-off ditches shall be shaped and sloped to drain away from the traveled-way.
6. Load and haul waste material to the designated disposal areas as flagged. Consolidate by lumping waste material into 1 large pile and compact pile with track wheeled equipment prior to seed and mulching.

FOREST SERVICE US DEPARTMENT OF AGRICULTURE	U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE PACIFIC NORTHWEST REGION–6		DATE: August 2, 2013
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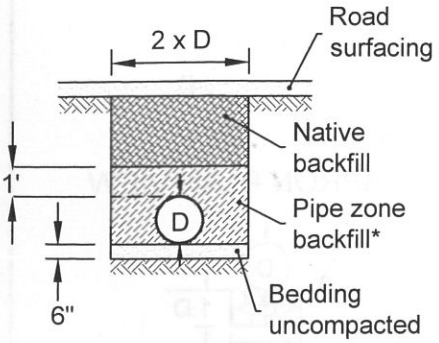
	APPROVED:	DWG NO: 20419	DRAWN BY: U. S. FOREST SERVICE
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE			SHEET TITLE: DITCH RECONSTRUCTION

CULVERT TYPES

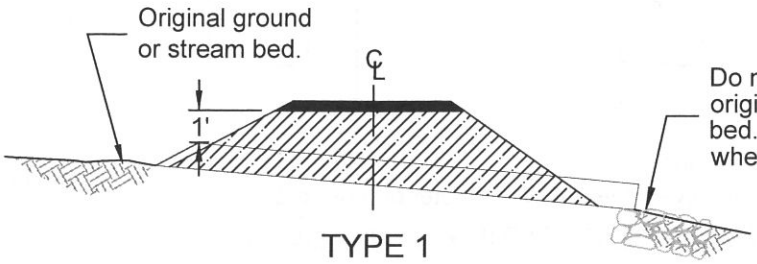


* Maximum particle size is 3", except 1-1/2" for plastic pipe

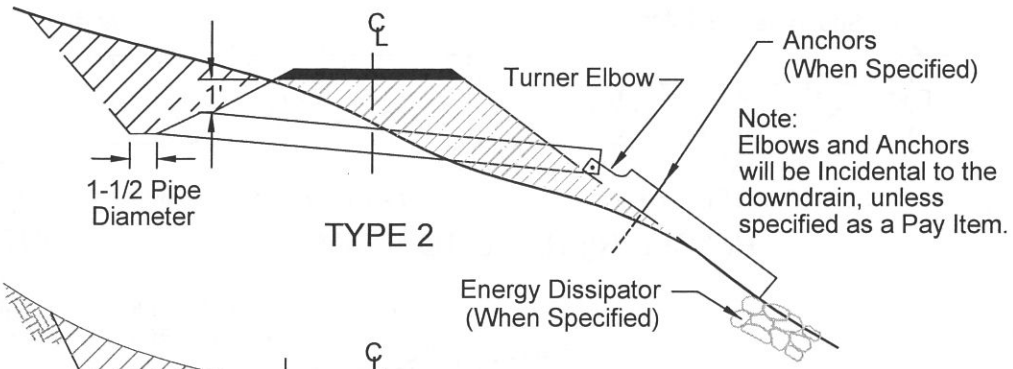
CULVERT INSTALLATION

NOTE: Pipe beds shall be constructed with a positive camber (1% of pipe length, 2% max.) before placing the pipe.

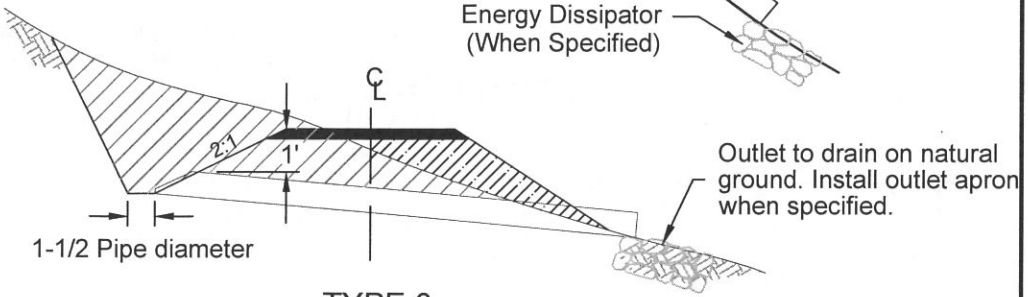
NOTE: Downhill-most section of pipe shall be full length.



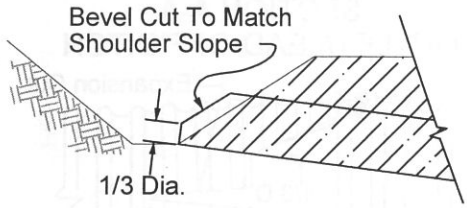
TYPE 1



TYPE 2

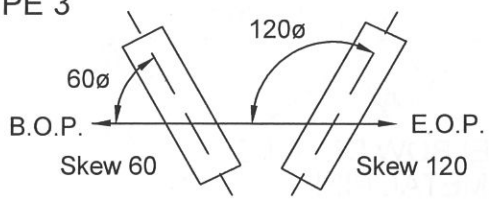


TYPE 3

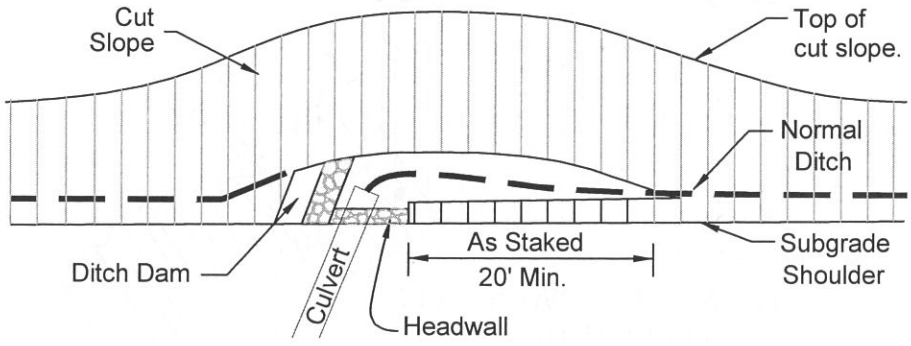


NOTE: All culverts shall be beveled at the inlet.

BEVELED INLET DETAIL



SKEW DIAGRAM



INLET CATCH BASIN DETAIL-PLAN VIEW
TYPE 2 & 3 CULVERT INSTALLATION

ANCHOR DESCRIPTION

Anchors (Each) shall consist of two 6' steel fence posts 1.5 lb./foot and No. 9 galvanized wire.
Posts shall be driven a minimum of 3' into the ground.
3 strands of wire shall be twisted together and encompass the entire circumference of the downpipe.
The number of Anchors sets per installation will be specified on the drawings.
1 set of Anchors will be required per 20' length of Plastic Downpipe.

NOT TO SCALE

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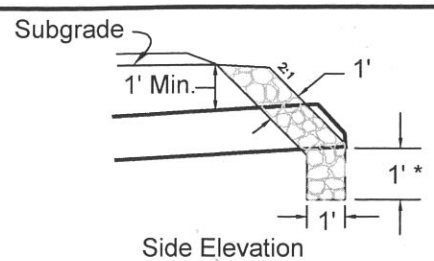
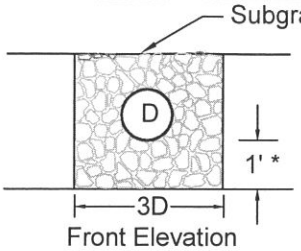


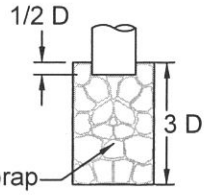
Side Elevation



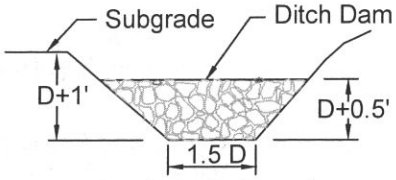
Front Elevation

* For culvert over 24" in diameter otherwise 0'.

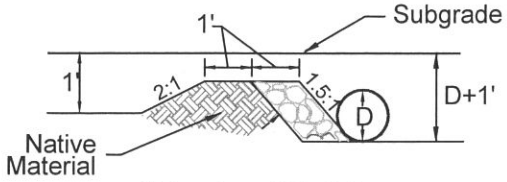
HAND-PLACED RIPRAP HEADWALL



OUTLET APRON PLAN VIEW

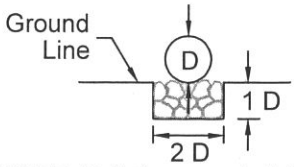


Catch Basin Elevation



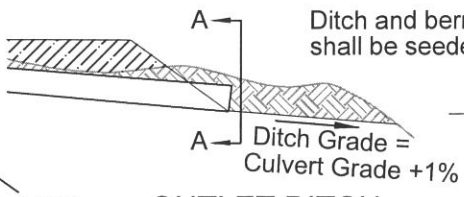
X-Section of Ditch Dam

PLACED RIPRAP DITCH DAM

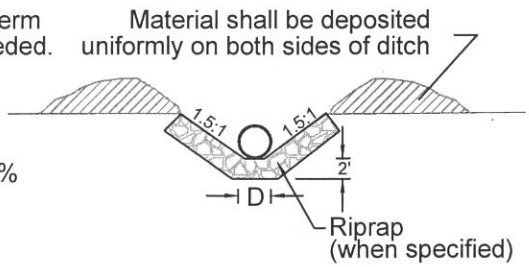


NOTE: Outlet apron shall be installed prior to setting the culvert. Apron surface shall be left with protruding riprap for velocity break.

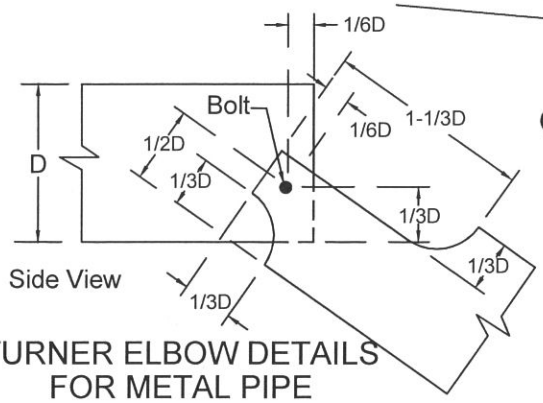
OUTLET APRON ELEV. VIEW



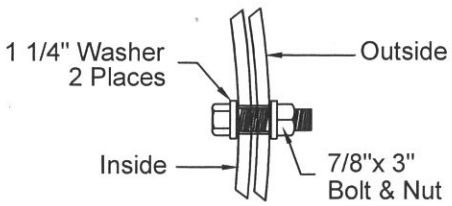
OUTLET DITCH



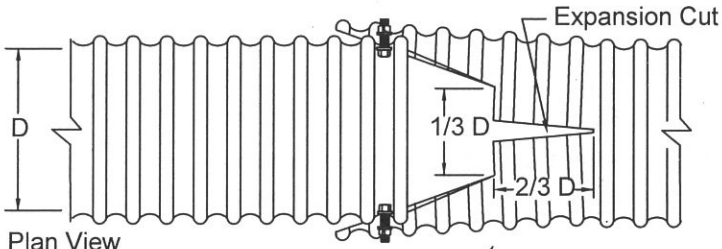
SECTION A-A OUTLET/LEAD-OFF DITCH



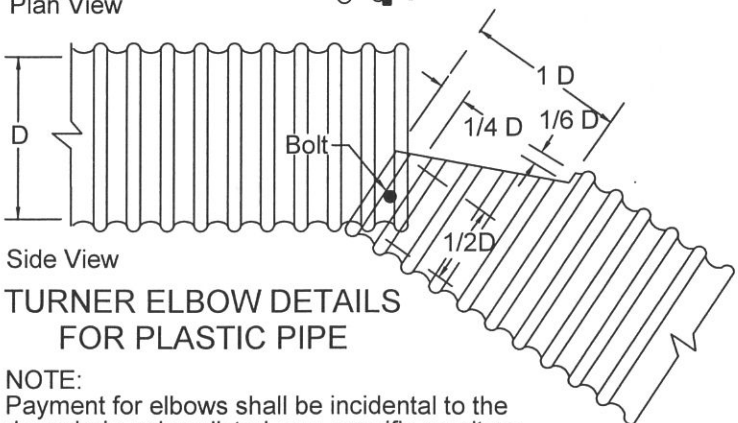
TURNER ELBOW DETAILS FOR METAL PIPE



BOLT DETAIL FOR METAL PIPE

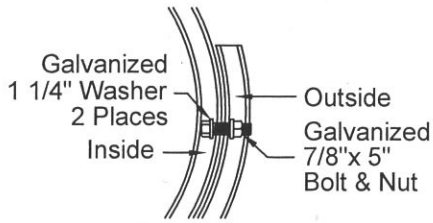


Plan View



Side View

TURNER ELBOW DETAILS FOR PLASTIC PIPE



BOLT DETAIL FOR PLASTIC PIPE

NOTE:
Payment for elbows shall be incidental to the downdrain unless listed as a specific pay item.

NOT TO SCALE

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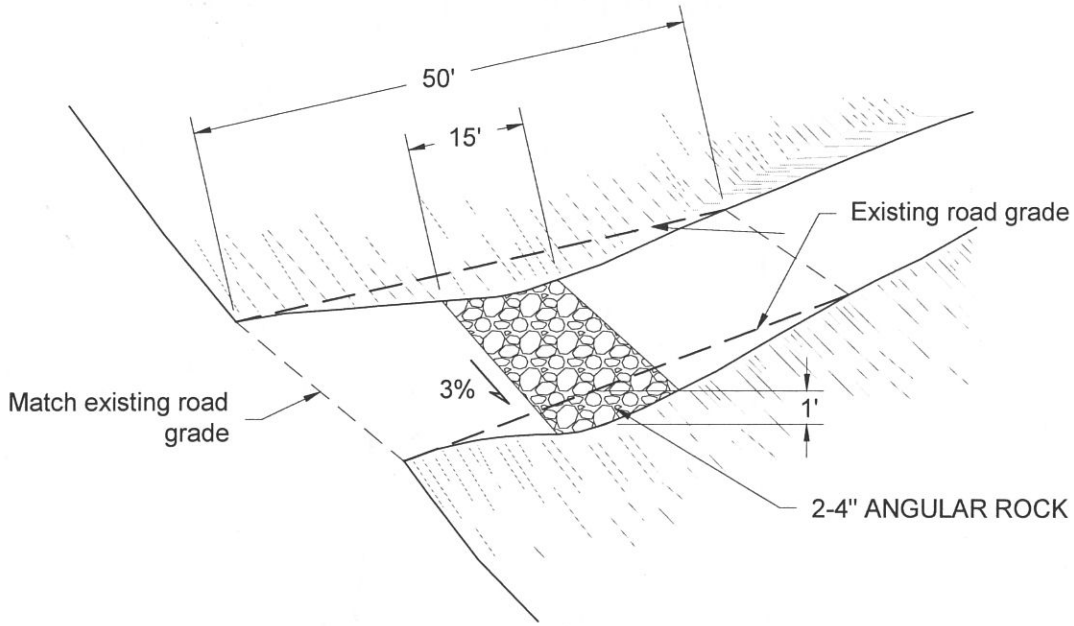
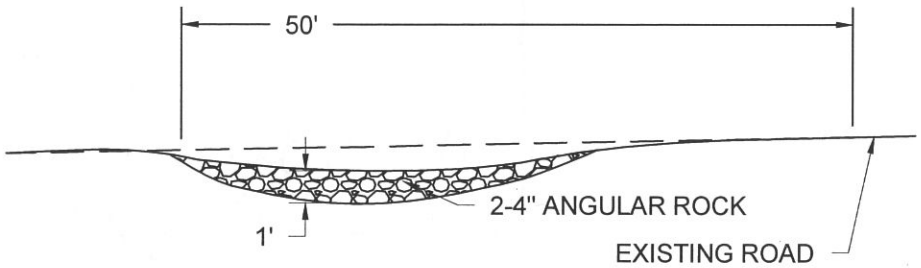
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: DRAINAGE CONSTRUCTION DETAILS



DRIVABLE DIP 3D TYPICAL

NOT TO SCALE



DRIVABLE DIP ELEVATION VIEW

NOT TO SCALE

NOTES:

1. Finish dip elevation shall be constructed 1' below existing road grade.
2. Use 2-4" angular free draining rock 1' thick to line the bottom of the dip for the full width of the roadway.
3. Dip shall match alignment of exisitng dips/swales adjacent to the roadway.

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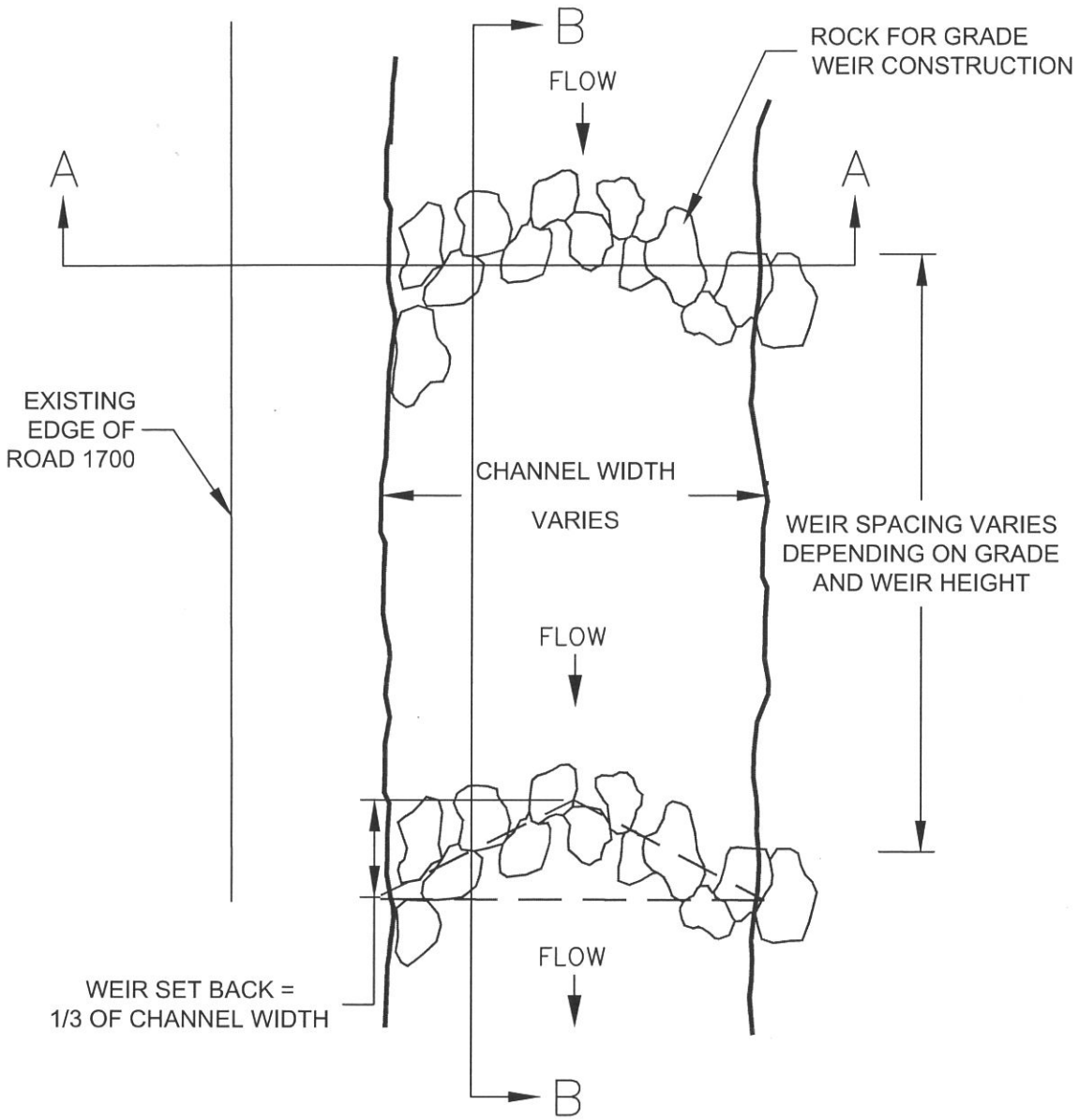
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: DRIVABLE DIP

GRADE CONTROL WEIRS (1/2)

RD 1700 MP 13.28



NOT TO SCALE

NOTES:

1. Rock used to construct weirs shall be 1–2 ft diameter angular rock from Finney Pit (Requires sorting).
2. Weirs can be constructed by trench and fill methods but all rock shall be keyed in with impact pressure per spec 251.05.
3. Each weir location will be staked in the field by Forest Service prior to construction of weirs.
4. Best management practices for dewatering and erosion control are applicable.

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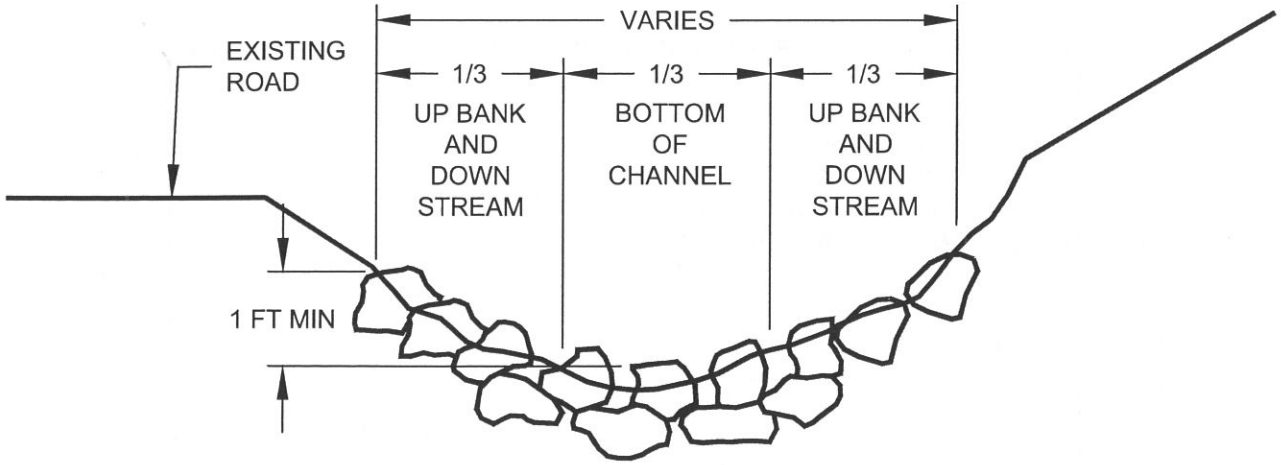
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: GRADE CONTROL WEIR 1 OF 2

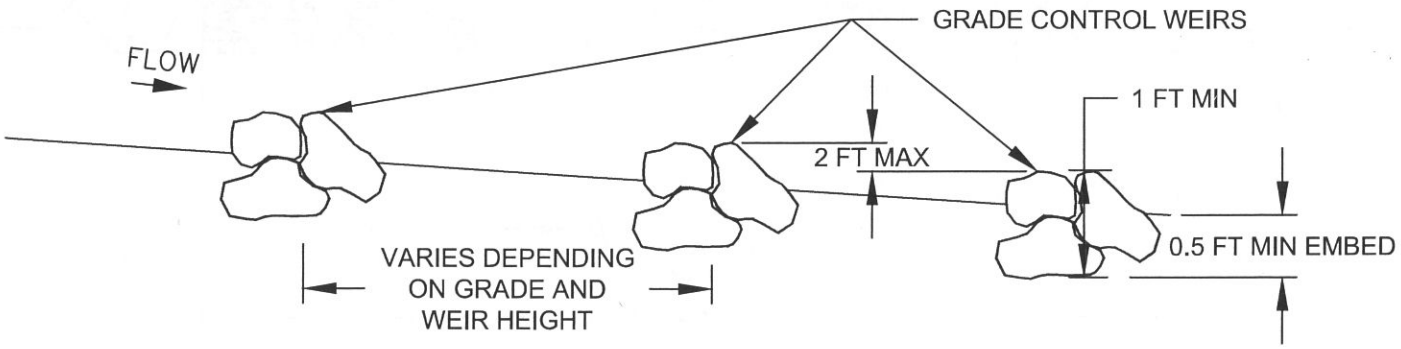
GRADE CONTROL WEIRS (2/2)

RD 1700 MP 13.28



CROSS SECTION VIEW A–A

NOT TO SCALE



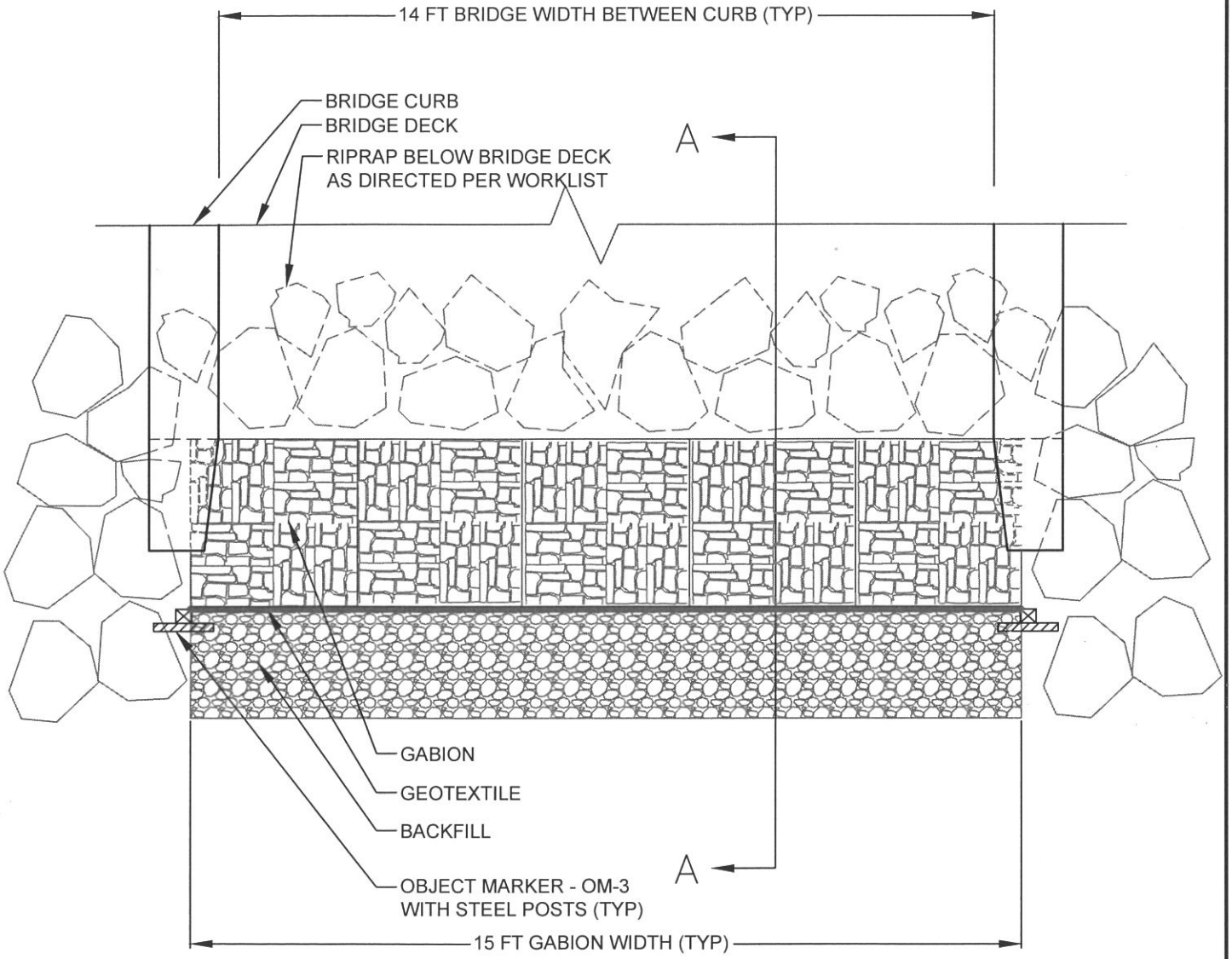
PROFILE VIEW B–B

NOT TO SCALE

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE PACIFIC NORTHWEST REGION–6		DATE: JULY 29, 2014 SHEET: 51 OF: 60
APPROVED:	DWG NO: 25101B–2	DRAWN BY: U. S. FOREST SERVICE
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: GRADE CONTROL WEIR 2 OF 2

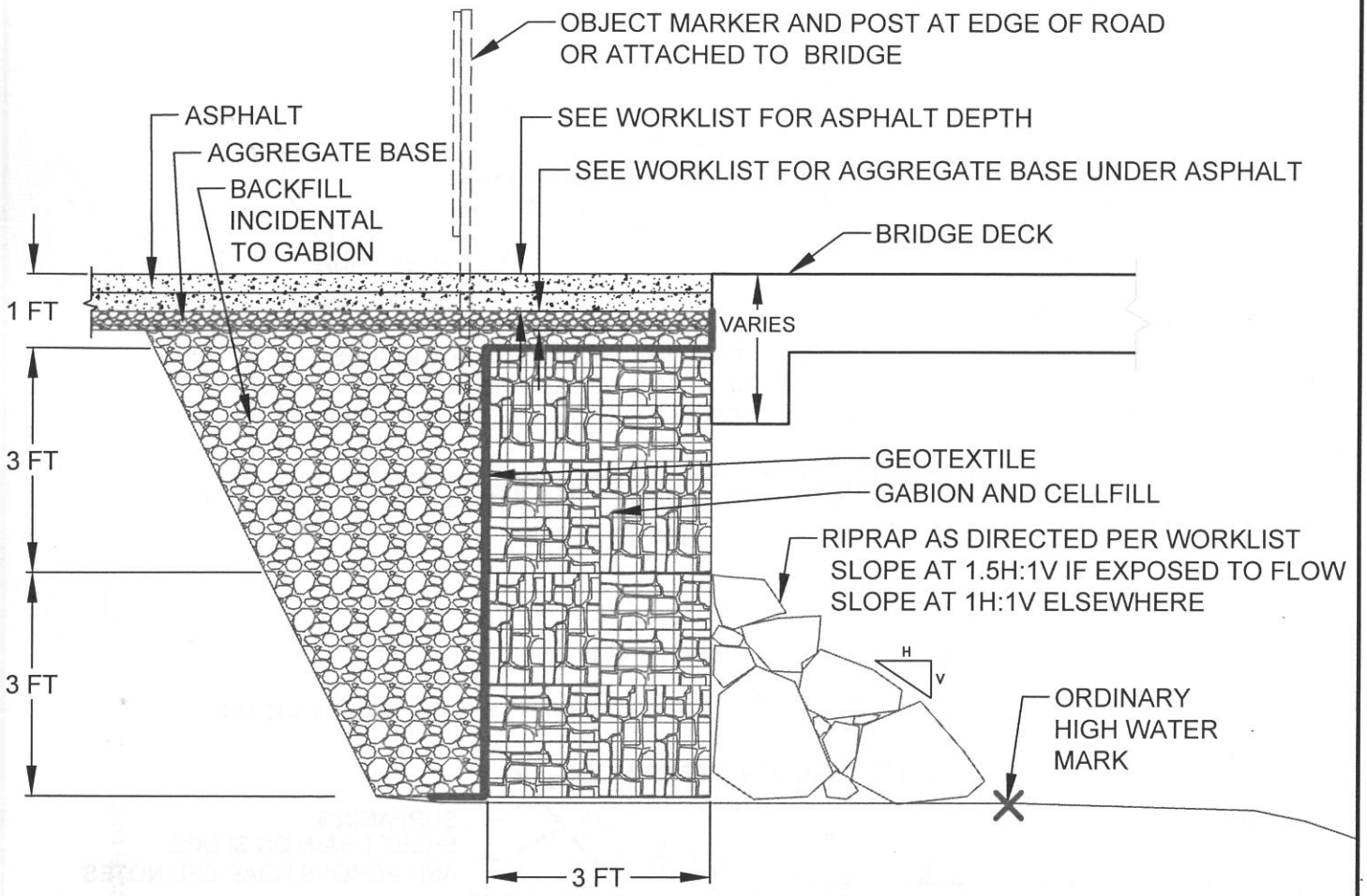
GABION PLAN DURING GABION CELLFILLING

RD 1700 MP 8.15 and 11.5



U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE PACIFIC NORTHWEST REGION–6		DATE: AUG 7, 2014
		SHEET: 52 OF: 60
APPROVED:	DWG NO: 25302–1	DRAWN BY: U. S. FOREST SERVICE
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: GABION SHEET 1 OF 2

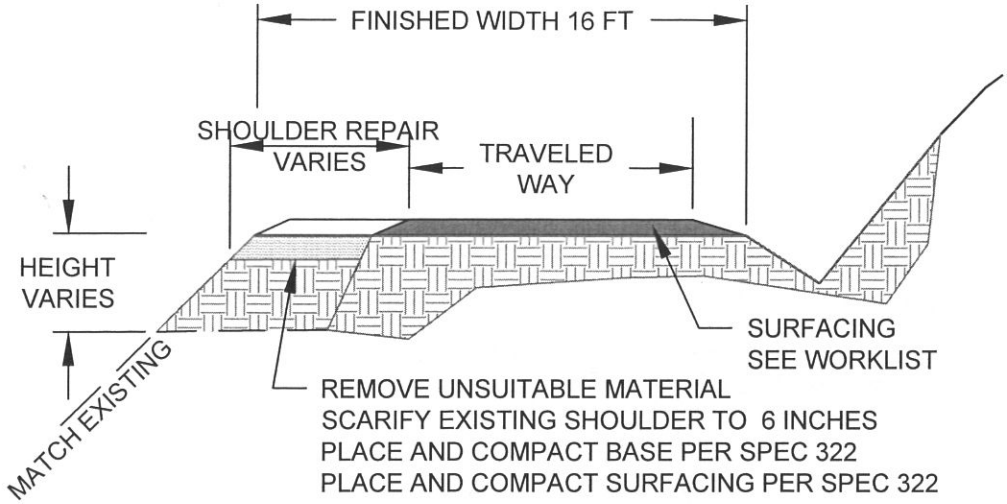
GABION SECTION A-A



NOTES:

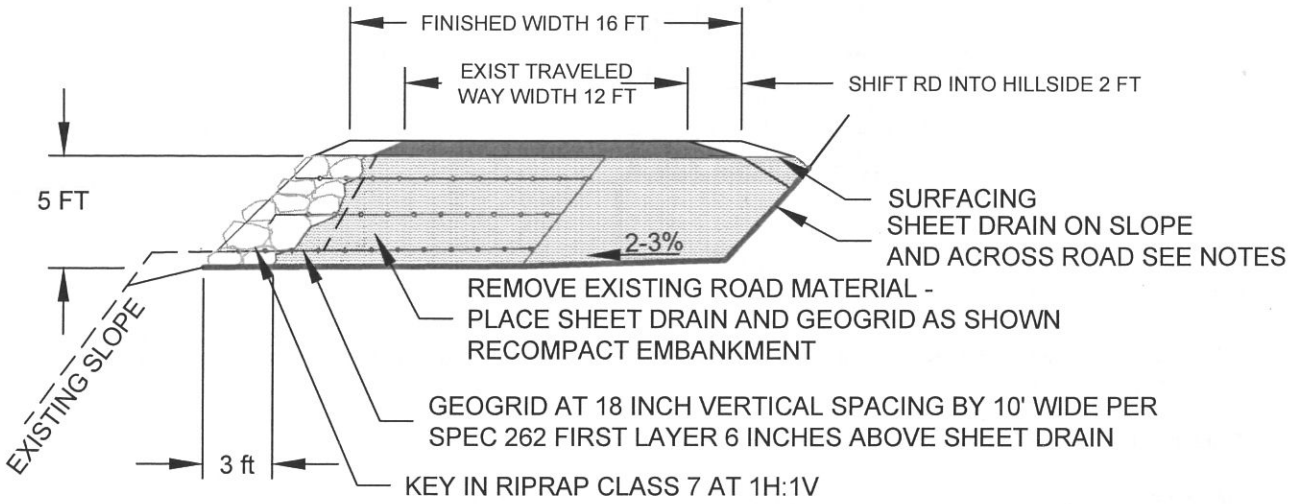
1. Compaction - backfill and crushed aggregate base course to be compacted using vibratory compaction equipment until visible displacement ceases.
2. Gabions shall be 9-gauge galvanized welded-wire construction.
3. Geotextile 9 oz. non-woven fabric shall be used to separate backfill and base course from gabions.
4. Riprap shall not extend beyond the existing toe of fill/riprap. Do not place riprap below the designated ordinary high water mark.

FOREST SERVICE US DEPARTMENT OF AGRICULTURE	U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE PACIFIC NORTHWEST REGION–6	DATE: AUG 7, 2014
		SHEET: 53 OF: 60
	APPROVED: / DWG NO: 25302–2	DRAWN BY: U. S. FOREST SERVICE
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: GABION SHEET 2 OF 2



MINOR SHOULDER EMBANKMENT REPAIRS (A)

NOT TO SCALE



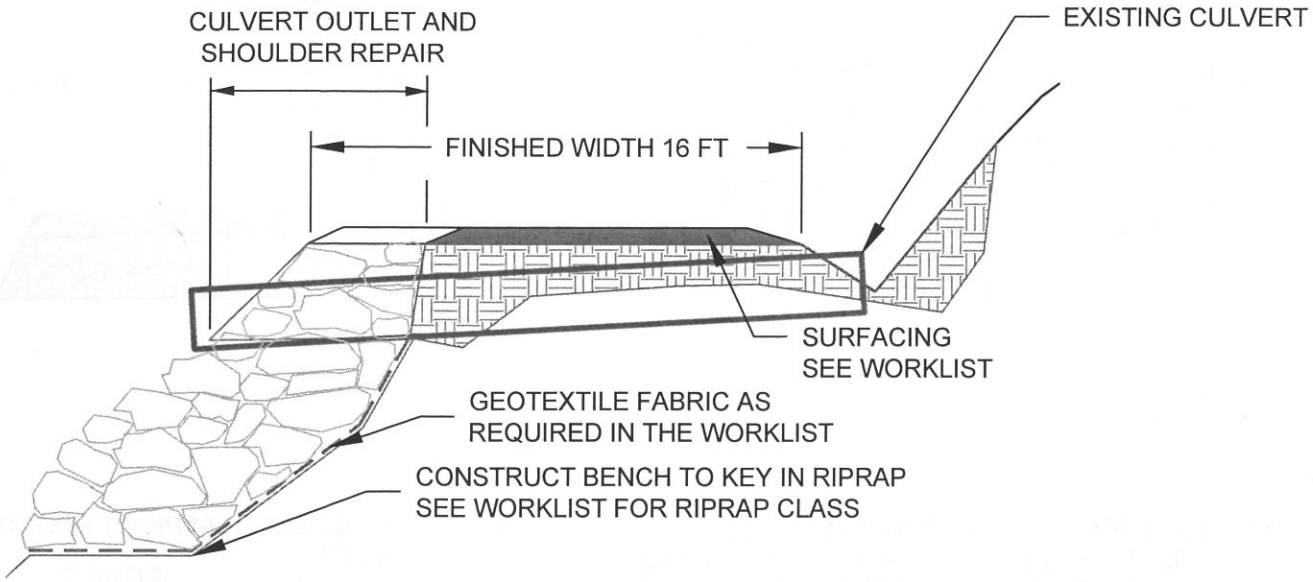
3-LAYER GEOGRID/RIPRAP/SHEET DRAIN EMBANKMENT REPAIR (B)

RD 1800 MP 18.55
NOT TO SCALE

NOTES

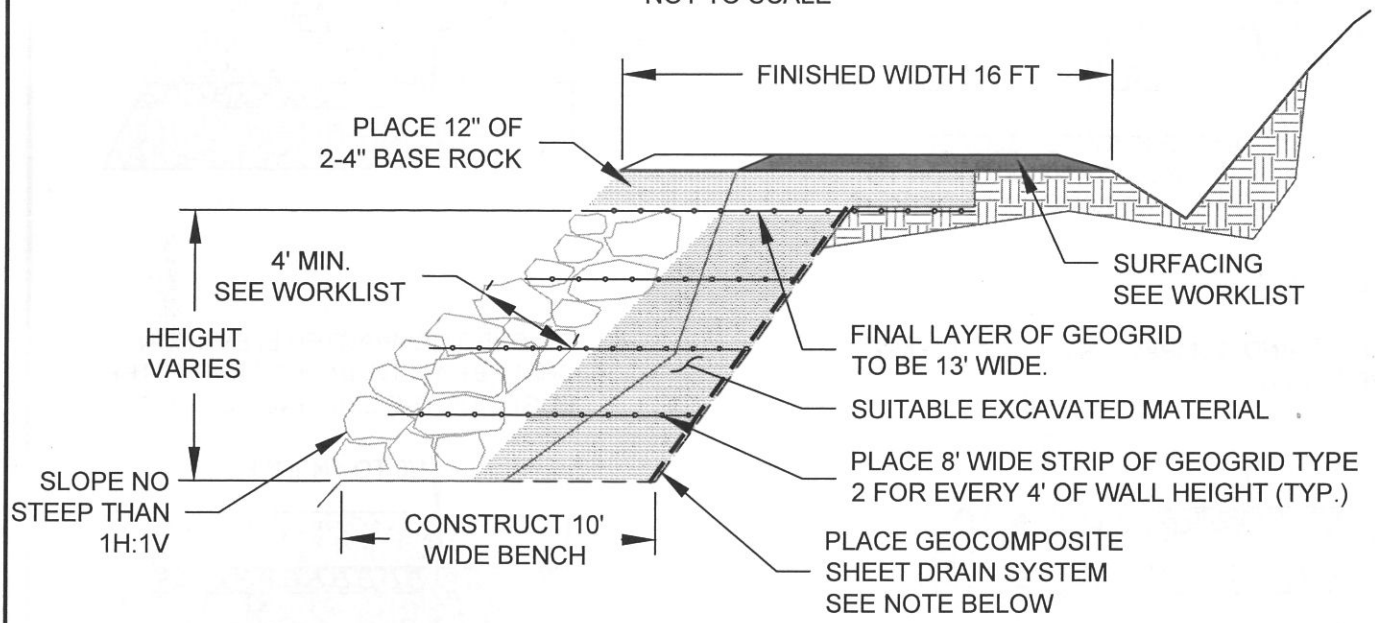
1. Conserve and use suitable excavated material at repairs.
2. Place unsuitable excavated material at road 1740 Finney pit, or road 1700016 Pit.
3. Sheet drain to be American Wick Drain "Sitedrain Sheet 180 Series" or approved equivalent. Sheet drain shall be placed drain side down on slope and up on road.

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE PACIFIC NORTHWEST REGION–6		DATE: AUGUST 8, 2014 SHEET: 54 OF: 60
APPROVED:	DWG NO: 20401	DRAWN BY: U. S. FOREST SERVICE
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: TYP. SHOULDER/EMBANKMENT REPAIRS



CULVERT SCOUR REPAIR AND RIPRAP WALL (A)

RD 1700 MP 7.80, RD 1735 MP 0.35, RD 1800 MP 13.85
NOT TO SCALE



EMBANKMENT REPAIR WITH RIPRAP WALL (B)

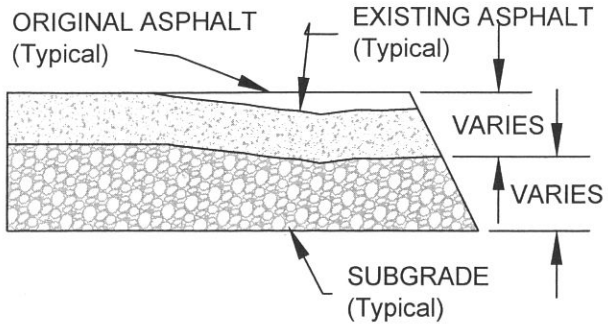
RD 1800 MP 18.95
NOT TO SCALE

NOTES

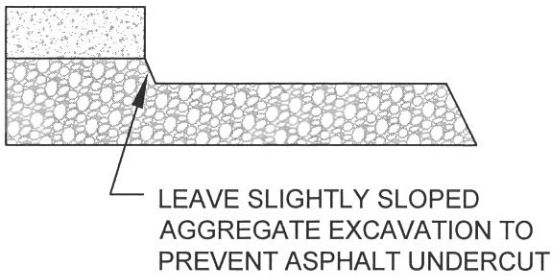
1. Conserve and use suitable excavated material at repairs.
2. Place unsuitable excavated material at road 1740 Finney pit, or road 1700016 Pit.
3. Sheet drain to be American Wick Drain "Sitedrain Sheet 180 Series" or approved equivalent. Sheet drain shall be placed drain side down on slope and up on road.

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE PACIFIC NORTHWEST REGION–6		DATE: AUGUST 7, 2014
		SHEET: 55 OF: 60
APPROVED:	DWG NO: 25101	DRAWN BY: U. S. FOREST SERVICE
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: TYP. SHOULDER/EMBANKMENT REPAIRS

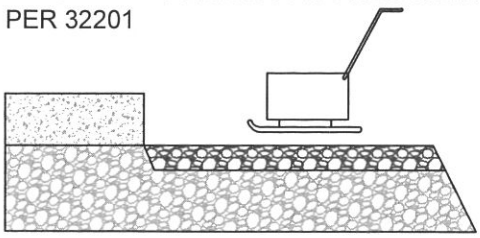
1. ORIGINAL ASPHALT (Typical)



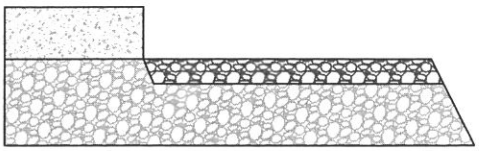
2. SAW CUT ASPHALT EDGES TO A CLEAN LINE OUTSIDE OF FAILURE. EXCAVATE AGGREGATE TO AREA OF FIRM SUPPORT. DISPOSAL PER GENERAL NOTES.



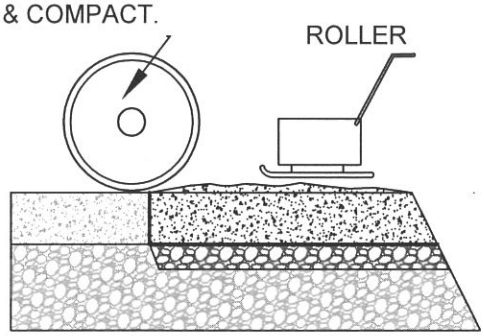
3. PLACE AND COMPACT AGGREGATE BASE PER 32201



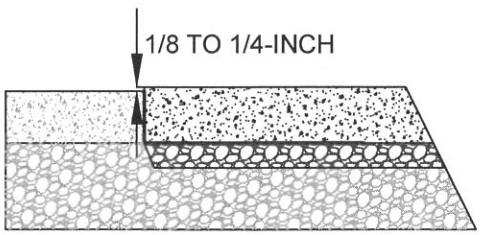
4. APPLY TACK/PRIME COAT TO ASPHALT AND AGGREGATE.



5. PLACE FULL DEPTH ASPHALT MIXTURE & COMPACT.



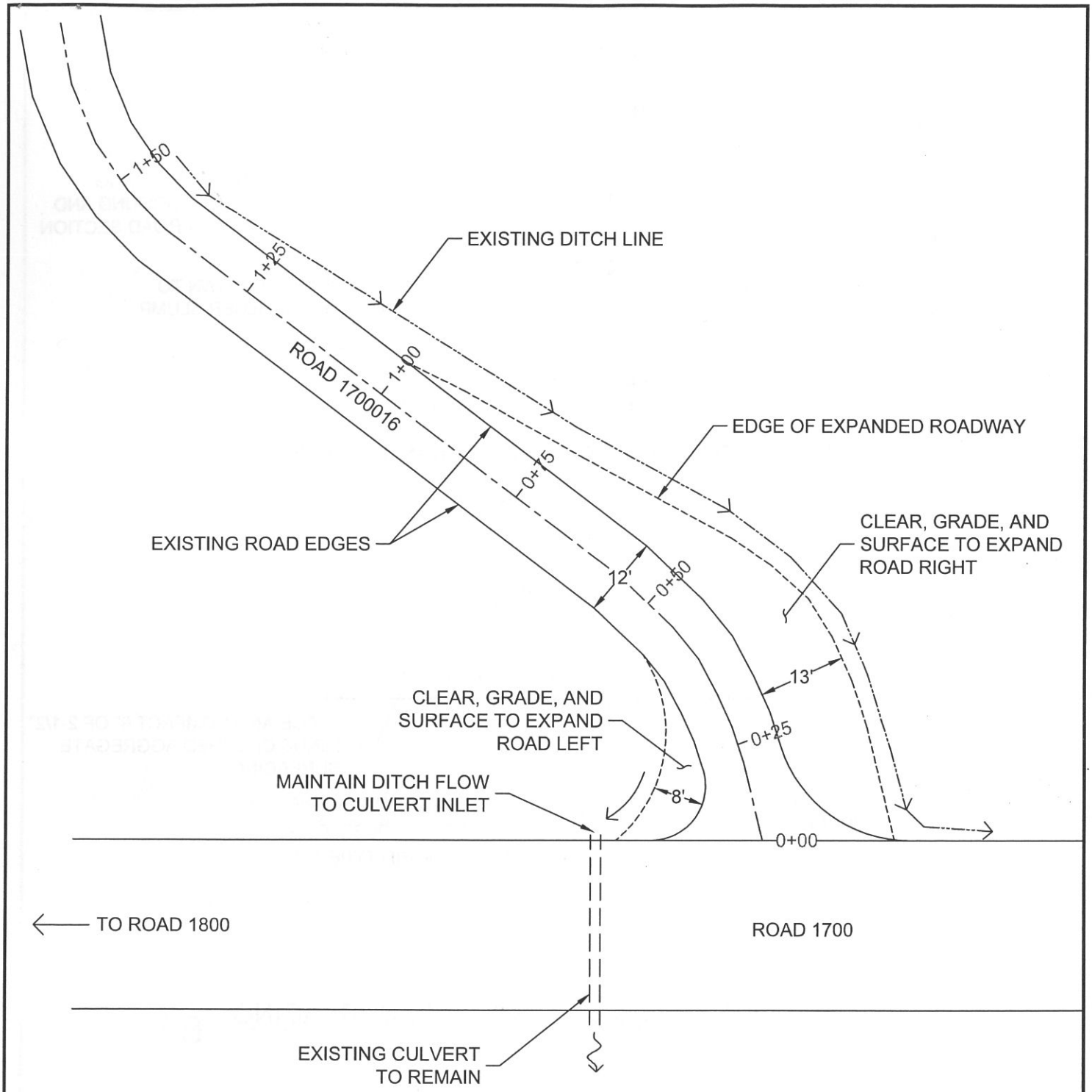
6. FINISHED COMPACTED ELEVATION SHALL BE 1/8 TO 1/4-INCH ABOVE THE EDGES OF THE EXISTING ASPHALT.



TYPICAL HOT-MIX ASPHALT PATCHING AND PAVING

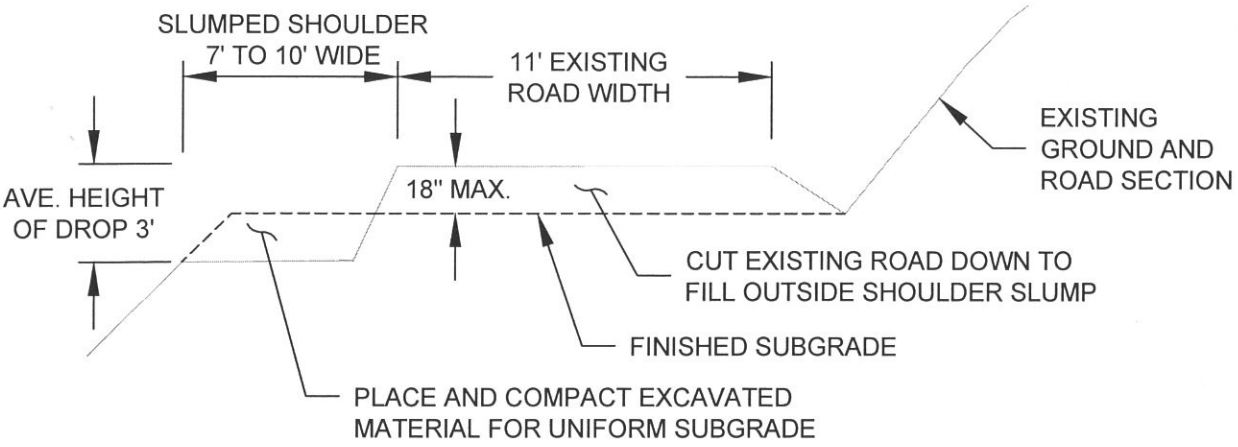
LOCATIONS AS SHOWN ON WORKSHEETS
NOT TO SCALE

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE PACIFIC NORTHWEST REGION–6		DATE: August 1, 2014 SHEET: 56 OF: 60
APPROVED:	DWG NO: 40401	DRAWN BY: U. S. FOREST SERVICE
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: ASPHALT PAVEMENT REPAIRS



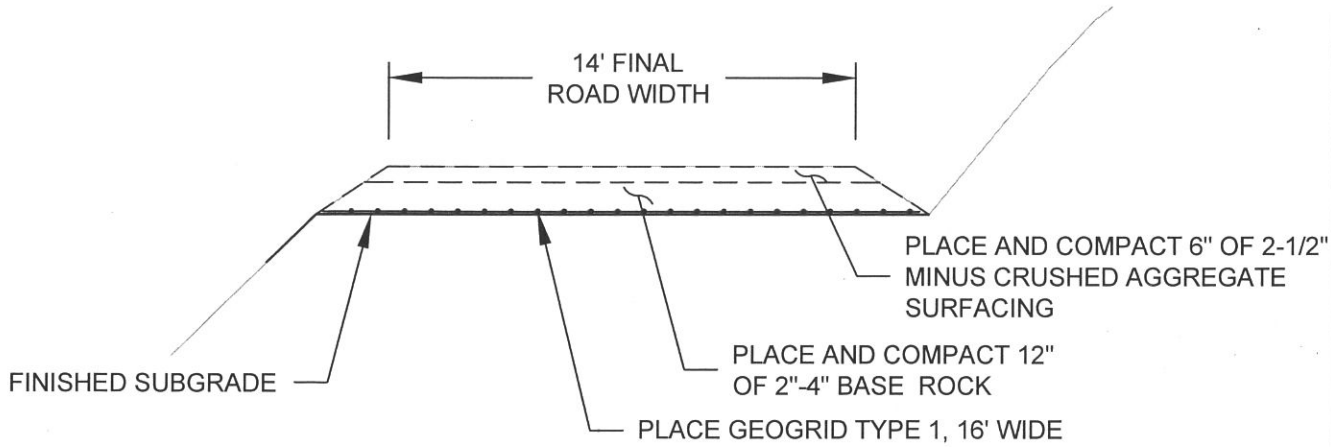
NOT TO SCALE

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE PACIFIC NORTHWEST REGION–6		DATE: JULY 13, 2015
		SHEET: 57 OF: 60
APPROVED:	DWG NO: RD 1700016	DRAWN BY: U. S. FOREST SERVICE
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: ROAD 1700016 INTERSECTION WIDENING



RD 1705: ROADWAY EXCAVATION ITEM 20401A (A)

ITEM 20401A



RD 1705: GEOGRID, BASE, AND SURFACING (B)

ITEMS 26201A, 32209C, 32209B

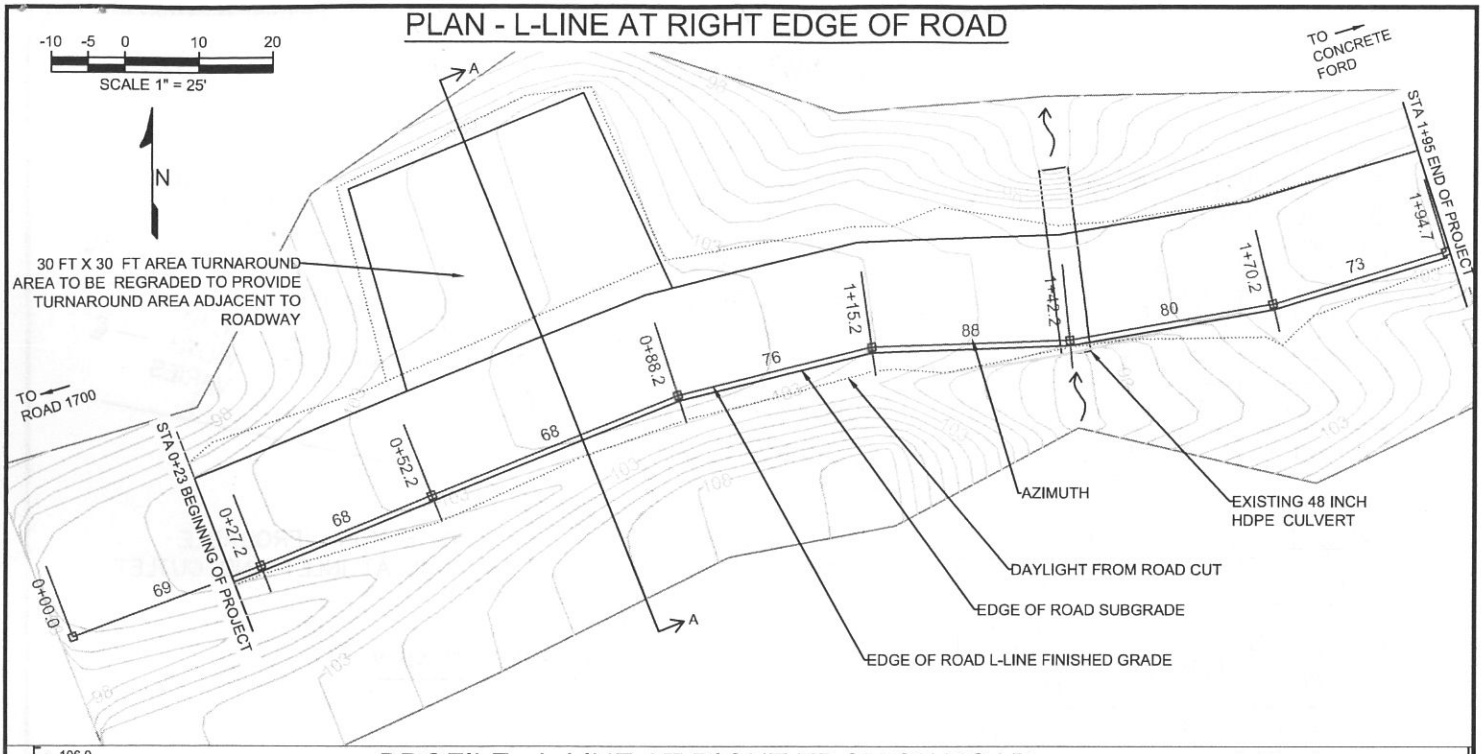
NOTES

1. See worklist for estimated quantities for each item of work.

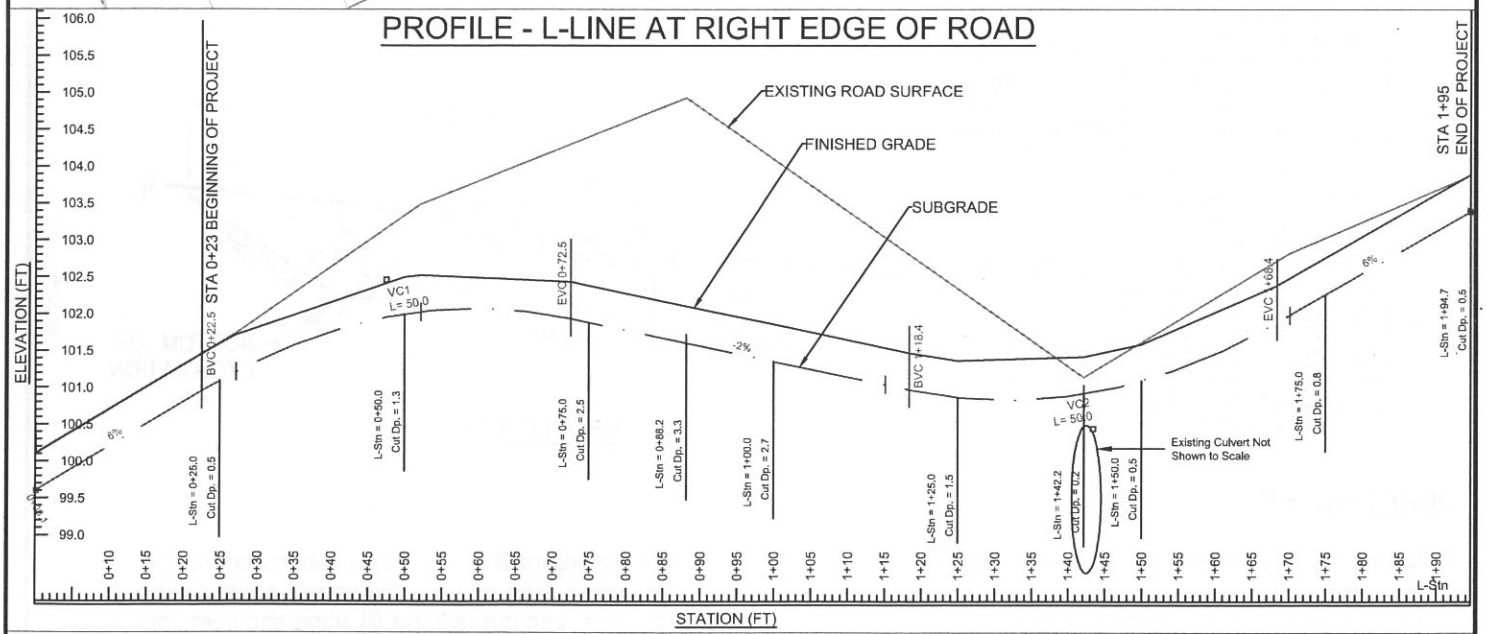
NOT TO SCALE

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE	U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE PACIFIC NORTHWEST REGION–6	DATE: JULY 13, 2015	
		SHEET: 58	OF: 60
	APPROVED:	DWG NO: RD 1705, MP 4.58	DRAWN BY: U. S. FOREST SERVICE
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE			SHEET TITLE: ROAD 1705, MP 4.58 SHOULDER REPAIR

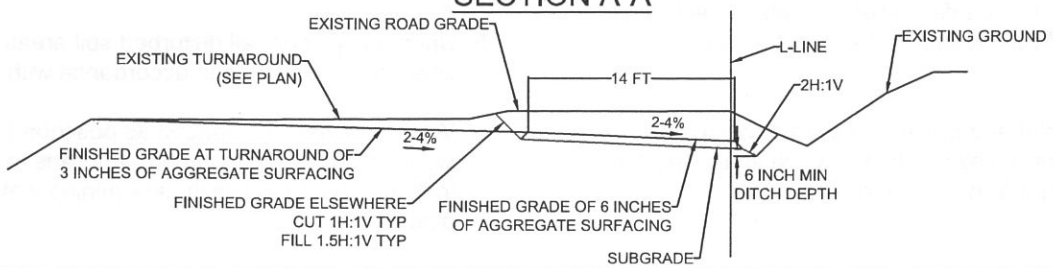
PLAN - L-LINE AT RIGHT EDGE OF ROAD



PROFILE - L-LINE AT RIGHT EDGE OF ROAD



SECTION A-A



U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE PACIFIC NORTHWEST REGION–6		DATE: JULY 30, 2014 SHEET: 59 OF: 60
APPROVED:	DWG NO: 20401B	DRAWN BY: U. S. FOREST SERVICE
PROJECT: UPPER FINNEY–CHUTE THIN TIMBER SALE		SHEET TITLE: 1735 MP 0.66 RECONSTRUCTION

WATER BAR

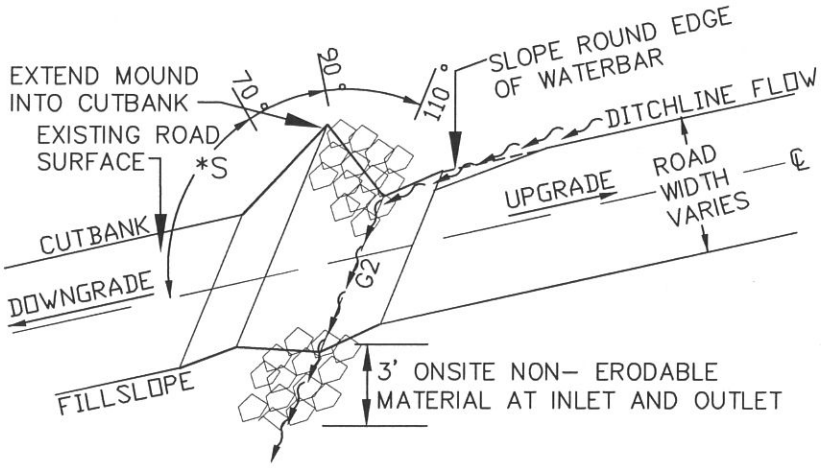
TABLE 1: WATERBAR MAX SPACING BY G1

G1 ROAD GRADE %	MAX. DISTANCE
0-3	300 FT
3-5	200 FT
5-10	100 FT
>10	75 FT

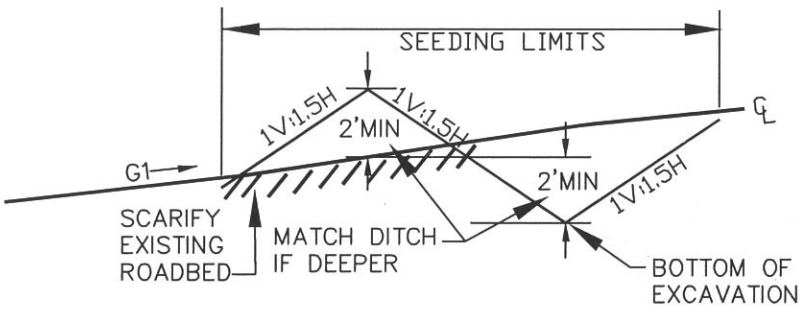
TABLE 2: DESIGN VARIABLES

G1	G2	*S
% ROAD GRADE	GRADE OF WATERBAR	SKEW OF WATERBAR (DEG.)
0-4	2-6	86 OR 94
4-6	6-8	85 OR 95
6-8	8-10	80 OR 100
8-10	10-12	75 OR 105
10-12	12-14	70 OR 110
12-14	14-16	65 OR 115
14-16	16-18	60 OR 120
16-18	18-20	55 OR 125
18-20	20-22	50 OR 130

* DEPENDS ON DIRECTION OF DITCHLINE FLOW.



PERSPECTIVE VIEW



PROFILE VIEW

SHEET NOTES:

1. Before starting excavation, determine the average road grade (G1), then use Table 2 to determine the other construction requirement variables.
2. Roadbed shall be scarified prior to fill placement. All fill and 3' of non-erodible material shall be equipment compacted.
3. Slope round inlet and outlet to prevent erosion and waterbar failure. All excavation shall be smoothed and sloped to drain with no ponding.
4. For waterbars G1≥ ±2%, excavation and barrier mound shall be constructed across entire roadway, ditchline, and through the fill slope shoulder, into cut bank.
5. Upon completion, all disturbed soil areas shall be seeded and mulched in accordance with item 62503.
6. Waterbars shall be spaced as described on the worklist and dependent on road grade in Table 1. Include pipe removals in determining waterbar placement.

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE PACIFIC NORTHWEST REGION-6		DATE: August 2, 2013 SHEET: 60 OF: 60
APPROVED:	DWG NO: T-835/T-839	DRAWN BY: U. S. FOREST SERVICE
PROJECT: UPPER FINNEY-CHUTE THIN TIMBER SALE		SHEET TITLE: WATERBAR CONSTRUCTION DETAILS